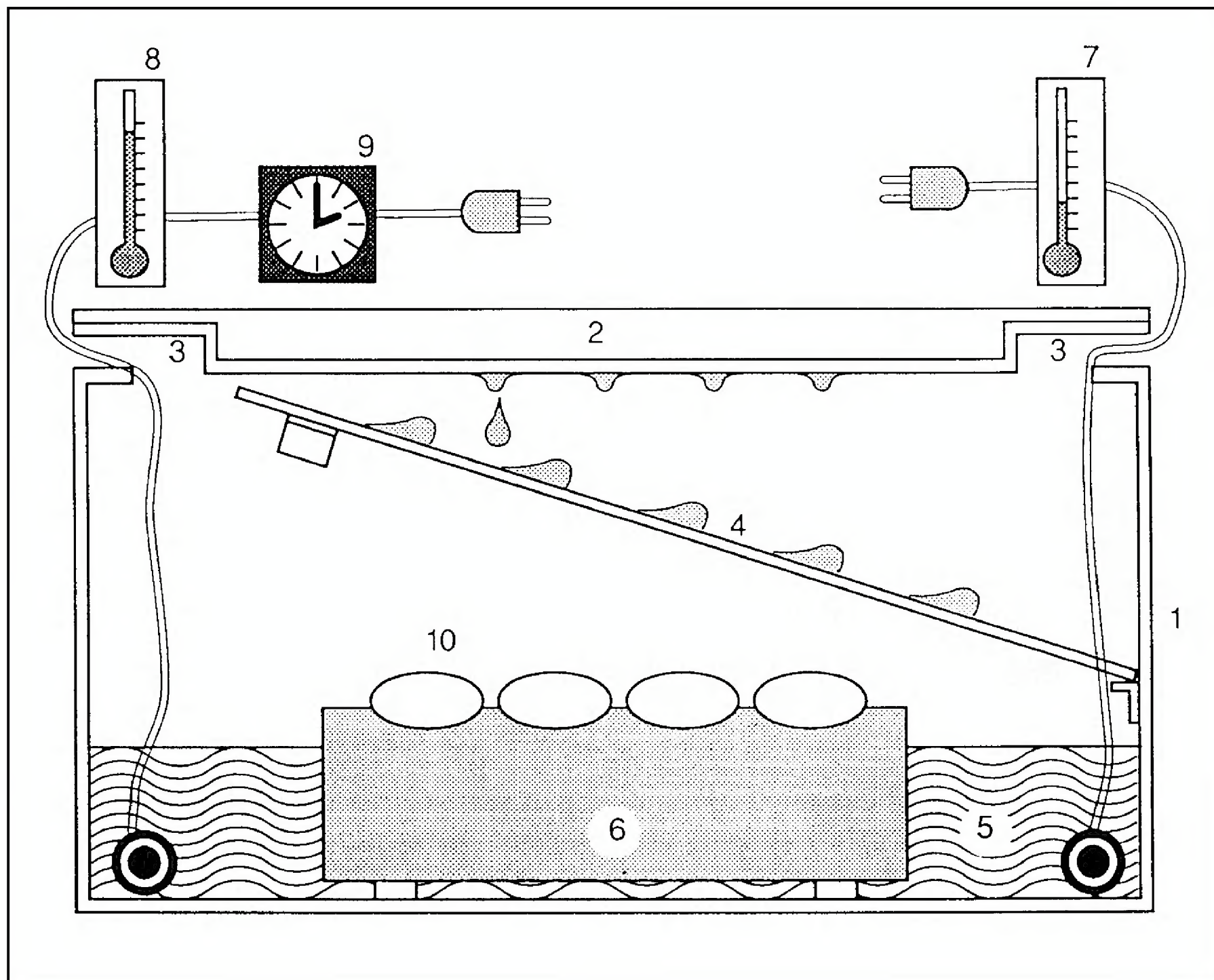


BULLETIN
of the
Chicago Herpetological Society



Volume 30, Number 7
July 1995



BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY

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An Incubator with Daily Temperature Fluctuations: A Better Way to Incubate Eggs from Turtles with Temperature-dependent Sex Determination?	Jef Nijs	141
The Status of the Bog Turtle (<i>Clemmys muhlenbergii</i>) in South Carolina	Lance W. Fontenot and Steven G. Platt	145
Unusual Coloration in a Red-eared Slider, <i>Trachemys scripta elegans</i>	John K. Tucker, Frederick A. Cronin and Bradley J. Kerans	148
Keeping Reptiles, Smuggling Wildlife, Wildlife Bureaucrats: <i>Smuggled-2</i> , An Australian Perspective		
Part 4. NARAMA, the World Congress and Other Issues	Raymond T. Hoser	149
Book Review: <i>How to Photograph Insects & Spiders</i> by Larry West with Julie Ridl	Manny Rubio	152
HerPET-POURRI	Ellin Beltz	153
N E W T L I N E	Debi Hatchett	156
Herpetology 1995		158
Unofficial Minutes of the CHS Board Meeting, June 9, 1995		160
Advertisements		161
Photo Essay: 1995 CHS Expo		164

Cover: Schematic drawing of an incubator designed to produce daily temperature fluctuations. Drawing by Gino Asselman.

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An Incubator with Daily Temperature Fluctuations: A Better Way to Incubate Eggs from Turtles with Temperature-dependent Sex Determination?

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Abstract

Eggs from captive reptiles are usually incubated at a constant temperature. In nature, eggs in nests undergo daily temperature fluctuations. In order to simulate this situation, a simple incubator with daily fluctuating temperatures was developed. The aim was to investigate whether the eggs were resistant to daily temperature fluctuations (up to 12°C) and to find out if both sexes were still produced, given that the sex of the hatchlings is determined by the incubation temperature. Eggs of *Chrysemys picta marginata* and *Trachemys scripta elegans* were tested using different temperature regimes. As all eggs hatched, it seems that fluctuating temperatures had no detrimental effect on the embryonic development. We now have to wait until the young reach sexual maturity to determine whether both sexes were produced and if they are fertile.

Introduction

In many species of turtles the sex of hatchlings is determined by the incubation temperature of the eggs, in nature as well as in the laboratory. However, in nature the eggs are subject to daily temperature fluctuations, while in laboratories, as a rule, artificial incubation takes place at a constant temperature. When temperature fluctuations have been attempted in laboratories, in general it has been long-term fluctuations (with each temperature lasting at least one day, but usually for a much longer period), to detect the exact period where the sex of the turtles is established during embryonic development (e.g., Bull and Vogt, 1981).

For more details on temperature-dependent sex determination, one can read Pieau (1975), Yntema (1976), Bull and Vogt (1979), Yntema and Mrosovsky (1980), Vogt and Bull (1984), Gutzke (1987), Gibbons (1990) and many others.

Here I present a simple incubator that provides a means to simulate the daily temperature fluctuations that might be expected to occur in nature.

The Incubator

The incubator (Figure 1) is based on the one described by Budde (1980) and differs from it only in that the eggs are partly buried in moist sand and that the heating system consists of two thermostatically controlled heaters (50W) of which the one providing the higher temperature is connected to a timer. The electronic probe of the thermostats connected to the heaters guarantees a high precision (to the nearest .1°C). All temperatures are taken as averages of measurements from two digital CRESTA-thermometers, the probes of which lie on top of the eggs during the incubation. The first thermostat is connected to a timer and regulates the "warm" period. When the timer starts, the incubator warms up until the indicated temperature is reached. This temperature is maintained until

the timer turns off. At that moment the incubator will cool down until the "cold" temperature, indicated on the second thermostat, is reached.

In this way we get four periods a day, namely: a) the warming up period; b) the warm period; c) the cooling down period; and d) the cool period. One can regulate the time periods and temperatures.

To test the incubator, five different time and temperature regimes were established. Each time, one or two clutches of the midland painted turtle, *Chrysemys picta marginata* (first four experiments), or of the red-eared slider, *Trachemys scripta elegans* (fifth experiment), were incubated.

During the first experiment the turtle eggs were incubated

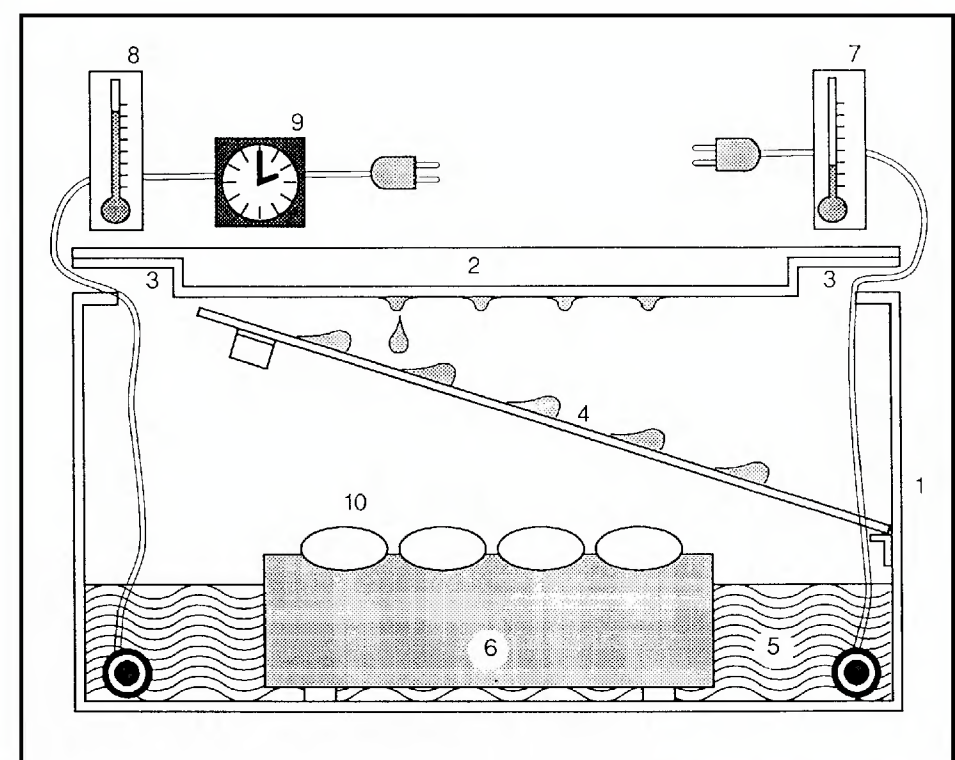


Figure 1. Schematic drawing of the incubator: 1) tank; 2) cover; 3) aeration space; 4) drip catcher; 5) water; 6) moist sand; 7) thermostat heater low temperature; 8) thermostat heater high temperature; 9) timer; 10) eggs.

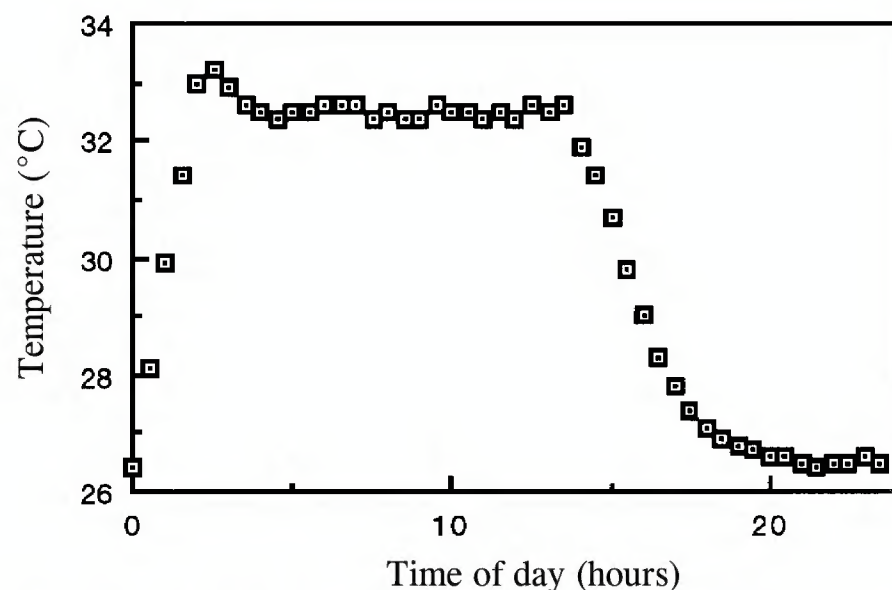


Figure 2. Daily temperature regime during the second experiment.

at a constant temperature of 27.5°C. During the second experiment the temperature fluctuated between 25 and 31.5°C (mean 27.8°C) (see Figure 2). During the third experiment, the temperature fluctuated between 19.5 and 31.5°C (mean 24.1°C) (see Figure 3). During the fourth experiment, temperatures fluctuated between 26.5 and 32.5°C (see Figure 4). The warm period was increased which resulted in a mean incubation temperature of 30.3°C. This choice was a conscious one since in the meantime we got indications that the previous tests all resulted in phenotypical males. During the fifth experiment, with eggs of the red-eared slider, *Trachemys scripta elegans*, the incubation temperature varied between 21.5 and 32°C (mean 26.9°C) (see Figure 5). Normally it was my intention to cool the incubator until 19.5°C but because of the high ambient temperature at the time this was impossible.

Clutches of *Chrysemys picta marginata* were obtained from the same female (and male) after injecting the female with four I.U. of oxytocin (Ewert and Legler, 1978). The couple had been in captivity for several years. The eggs of *Trachemys scripta elegans* were laid in a “natural” nest in an outside enclosure where some red-eared sliders were kept in captivity.

White patch formation, the first sign of fertilization, started the day following oviposition. All the eggs were candled once a week to monitor embryonic development (Foust and Riemer, 1986).

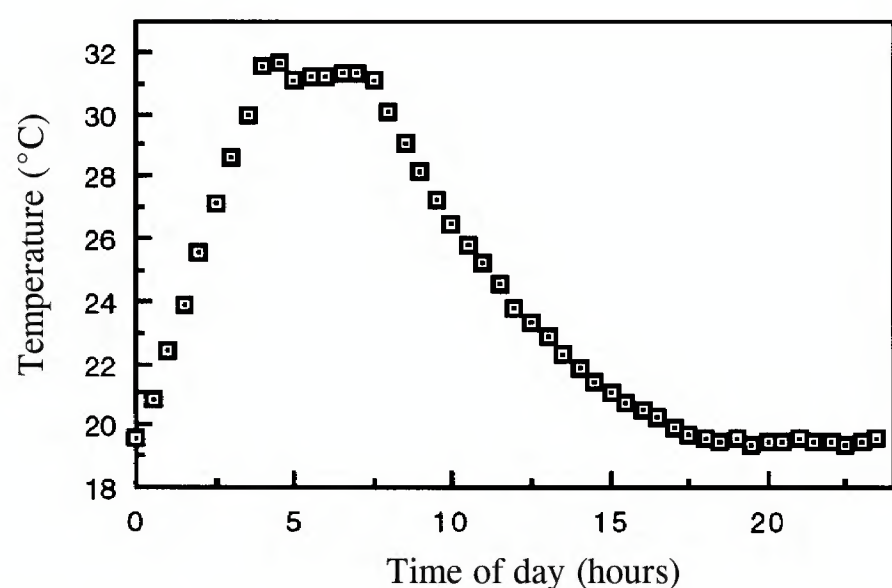


Figure 3. Daily temperature regime during the third experiment.

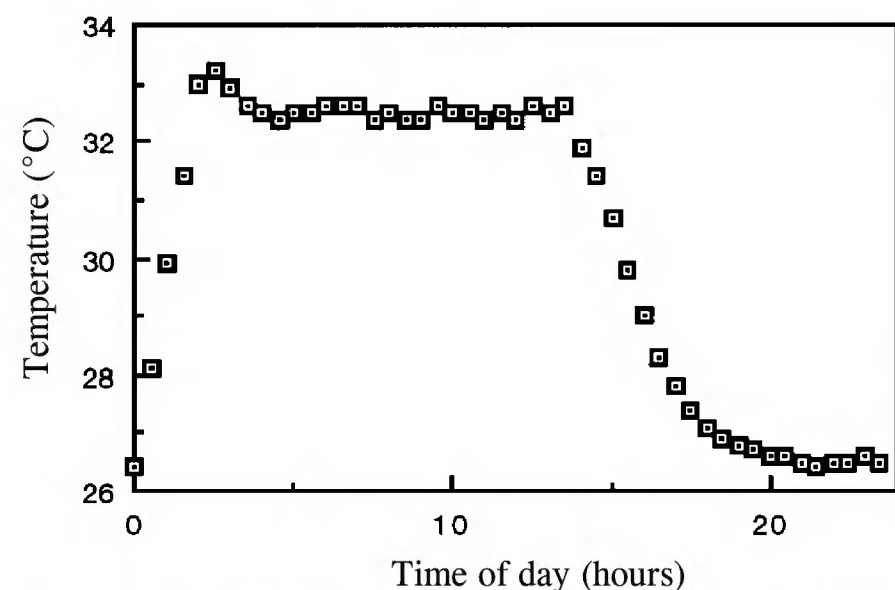


Figure 4. Daily temperature regime during the fourth experiment.

Results

All fertilized eggs (respectively 6, 7, 4, 9 and 6 eggs) hatched and the hatchlings seemed healthy. Four youngsters (from different clutches) showed small abnormalities of the carapace. This can be the result of unfavorable incubation conditions such as a dry substrate (Lynn and Ullrich, 1950). The results of the incubations are summarized in Table 1.

Taking into account the relatively small number of eggs incubated, with some reserve, we can draw the following conclusions:

a) Since all the incubated eggs hatched and the hatchlings seemed healthy, we can put forward that neither fluctuating nor constant incubation temperatures have a negative influence on embryonic development.

b) Eggs of *Chrysemys picta marginata* and *Trachemys scripta elegans*, from females kept in captivity for several years, are resistant against relatively high variations in temperature during embryonic development. This may seem logical, but it is known that turtles kept in captivity in “optimal” conditions, may partially lose their resistance, for instance against disease, because they are less frequently confronted with unfavorable conditions. Also, under influence of stress their immunity can diminish. It could just as well have turned out that a loss of resistance in the parents had extended to the eggs.

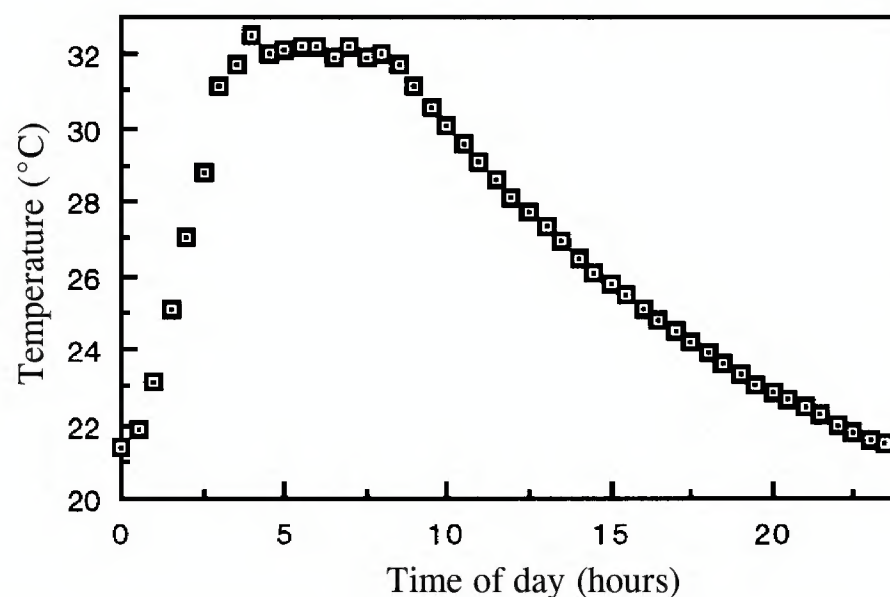


Figure 5. Daily temperature regime during the fifth experiment.

c) When we look at the results of the first four tests, we notice that the average incubation period is inversely proportional to the incubation temperature, i.e., that higher incubation temperatures give lower incubation periods and vice versa. This is known from the literature.

d) Taking into account the results of the first two tests, we can conclude that fluctuating temperatures have no influence on the incubation time. Indeed, the two tests, with a (nearly) identical average temperature, give comparable incubation periods.

e) We have yet to demonstrate whether males as well as females will be produced and whether the animals will maintain their sex constitution until maturity and be fertile. The only way to determine the sex at birth is to examine the reproductive organs of the hatchlings under a microscope. To do this they must be sacrificed, which did not seem opportune to me since I needed the animals for further experiments.

There is only one temperature, the so called pivotal (critical) temperature, whereby one gets an even (1:1) distribution of the sexes. Since this pivotal temperature is species-specific and so far unknown for most species of reptiles whose sex is influenced by the incubation temperature, this incubator might offer a solution to that problem. However, testing different temperature regimes is a necessity, because even small shifts can give a completely different sex ratio. Bull and Vogt (1979) found that eggs of *Graptemys ouachitensis* and *Graptemys pseudogeographica* incubated at temperatures fluctuating daily between 20 and 30°C resulted in predominantly male hatchlings whilst temperatures varying between 23 and 33°C gave birth to predominantly female offspring.

Turtles from tests one, two, three and five showed after some time external (phenotypical) male characteristics, that is, elongated nails at the foreclaws and a thickened tail base. Whether these animals will become fertile or not when reaching sexual maturity, time will tell. So far, hatchlings from experiment four are too small to show secondary sex characteristics.

Discussion

Using the developed incubator I was able to simulate daily temperature cycles with fluctuations up to 12°C, with no apparent detrimental effect on embryonic development. Congdon and Gibbons (1990) found in nests of *Chrysemys*

picta in southeastern Michigan, average nest temperatures between 18 and 33°C. This implies that at certain moments the extremes of day and night were even further apart. To reduce the danger of egg mortality, I chose not to let the extremes fluctuate that much during the incubation period.

The ultimate answer we are after is whether it is useful to let the temperature fluctuate, since by incubation at constant temperatures a comparable percentage of viable hatchlings is obtained. As for sex ratio, apparently there are no problems here either. If one, for instance, incubates the first clutch at a low constant temperature and the next one at a high constant temperature, in theory one hatches as many males as females.

The problem, however, is that sex is always determined on the basis of the gonads of hatchlings or juveniles, for whom scientists readily accept that the sex ratio does not change throughout life. To my knowledge no one has conducted a controlled experiment with turtles, where the hatchlings of eggs incubated at different constant temperatures were apportioned into to sets: (1) those dissected to determine sex ratio by histological dissection of the hatchlings, and (2) those who were raised and followed up until sexual maturity. Consequently it is not sure if the sex ratio remains the same until the animals become sexually mature, nor do we know if all the animals become fertile.

To me, this seems a serious gap in the research on the phenomenon of environmental sex determination in turtles, all the more since Gutzke and Crews (1988) could demonstrate that, for a representative of another reptile order, namely the leopard gecko, *Eublepharis macularius*, the sexual behavior of females was determined by the incubation temperature during embryonic development.

These researchers incubated eggs from this lizard at different constant temperatures and found that females from high incubation temperatures reacted to the courtship of males as though they were themselves males. None of these females were observed to mate or lay eggs over a two-year period and histological examination of the ovaries did not reveal any testicular tissue or cells. Whether this apparent sterility of the high-incubation-temperature females occurs at the level of the gonads, the hypothalamus and/or the pituitary remains unclear.

To me it seems possible that some biochemical reactions (for example those involved with sexual differentiation) only take place at specific temperatures and it seems logical that the

Table 1. Incubation data and measurements of eggs and hatchlings. CL = carapace length; * indicates average.

Test number	Number of eggs	Egg dimensions (mm)	Incubation time (days)	Hatchling CL (mm)	Incubation temperature (°C)
1	6	29.0–32.0 × 17.5–18.5	54–55	24.0–25.5	27.5
2	7	29.5–33.0 × 17.5–18.5	55–57	25.5–26.5	25.0–31.5 (27.8*)
3	4	30.0–31.5 × 18.5–19.5	68–69	25.5–26.5	19.5–31.5 (24.1*)
4	9	28.0–29.5 × 17.0–19.0	50–51	23.5–25.5	26.5–32.5 (30.3*)
5	6	29.5–32.0 × 19.5–20.0	77	26.5–29.0	21.5–32.0 (26.9*)

chances to obtain those temperatures are much higher using fluctuating temperatures than by using constant temperatures. A second reason to use fluctuating temperatures is the possibility that in this way, stronger and larger hatchlings could be generated. To prove this however, additional tests should be executed, where only temperature varies, whilst other parameters, such as the humidity of the substrate, remain constant.

Experiments have shown that eggs of *Trachemys scripta* incubated on a wet substrate produced hatchlings that were on average 2.5 mm longer than those incubated on a dry substrate (Congdon and Gibbons, 1990).

I did not check the humidity of the sand precisely during my incubations. When the egg shells were under tension, I

considered the humidity as sufficient, if not, I added a quantity of water. When, how much and in what specific experiments this happened, I did not register.

Taking in account the two issues mentioned above, I consider it useful to use the described incubator to approach the natural nest conditions as close as possible.

Acknowledgments

Hereby I want to express my gratitude to H. Janssen for the constructive discussions we had on the executed tests. G. Winderincks was responsible for raising part of the hatchlings. Gino Asselman made the schematic drawing of the incubator.

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The Status of the Bog Turtle (*Clemmys muhlenbergii*) in South Carolina

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Introduction

The bog turtle (*Clemmys muhlenbergii* Schoepff) is considered one of the rarest North American turtles and has been proposed as a candidate for listing under the Federal Endangered Species Act (Bury, 1979). Bog turtles occur in scattered, disjunct populations in the eastern United States from New England to northeastern Georgia (Bury, 1979). They inhabit mountain bogs, sedge meadows and other wetlands from sea level to 1373 m (Bury, 1979; Herman and Pharr, 1986).

Little is known concerning the status of bog turtles in South Carolina. Bog turtle fossils have been reported from Dorchester County (James Knight, pers. com.). Extant specimens were first reported in the state in 1980 when two turtles were found in Greenville County (Herman and Putnam, 1982). Further efforts to locate additional populations in northwestern South Carolina were unsuccessful (Herman, 1984). More recently, an additional turtle was collected crossing a road near a wetland in Pickens County (Batson, 1991). Bog turtle populations in South Carolina and northwestern Georgia (Hale and Harris, 1980; Herman and Putnam, 1983) represent the southernmost limit of the species range. The bog turtle is currently listed as a species of special concern by the South Carolina Department of Natural Resources (1994).

In 1992 a two-year survey was initiated to intensively search the three known sites in Greenville and Pickens Counties, to determine the status of these populations, and to survey other wetlands in the northwestern counties of South Carolina to locate additional populations (Fontenot and Platt, 1993).

Methods

Potential bog turtle habitat was located by examining United States Geological Survey topographical maps, Soil Conservation Service soil survey maps, driving back roads, and interviewing local residents. Wetlands to be searched were selected based on the presence of indicator plant species (e.g., *Sphagnum*, sedges [*Carex* and *Cyperus*], rushes [*Juncus*], alder [*Alnus*] and red maple [*Acer rubrum*]), a mucky substrate, and permanent water source such as a spring, seep or creek. Most authors describe bog turtle habitat as open, wet sedge or bog meadow with a soft, deep muck substrate (Herman, 1981; Kiviat, 1978; Tryon, 1990). A permanent water source persisting throughout the dry summer months appears to be an essential component of bog turtle habitat (Dawson, 1984).

All sites investigated were searched using the following methods: visual observation, probing with a turtle stick (Carpenter, 1955) or by hand, raking back vegetation, and looking for turtle sign (tracks, trails, bubbles, etc.). Trapping was conducted at the three known sites and at other sites believed

to have high potential. Modified Gees minnow traps (Memphis Net and Twine Co.) and swing-door wire turtle traps (based on a design by Kenneth Fahey) were deployed in combination with drift fence arrays (Gibbons and Semlitsch, 1981). Trapping has proven to be an effective sampling technique for bog turtles in North Carolina (Beane, 1993) and Georgia (D. Herman, pers. com.). Roads near wetlands were searched for dead specimens.

Turtles were sexed according to Ernst and Barbour (1989) and marked by filing notches in the marginal scutes (Cagle, 1939). Age was determined by counts of shell annuli. Length and width of the carapace and plastron were measured to the nearest 0.1 mm with dial calipers and turtles were weighed to the nearest gram with a Pesola spring scale. According to Ernst (1977), bog turtles cannot be reliably sexed until after the sixth year when plastral length is > 70 mm. All turtles were released at the capture site.

Results

Fieldwork was conducted from 19 March to 26 September 1992, and 8 April to 7 October 1993. Thirty-six sites were surveyed in Anderson, Greenville, Oconee, Pickens, Spartanburg, and York Counties (Figure 1; Table 1). These sites were located in both the Piedmont and Blue Ridge Mountain physiographic regions (Radford et al., 1968) and most were privately owned. Specific locality data are provided in Fontenot and Platt (1993). Approximately 53.5 man-hours in 1992 and 90 man-hours in 1993 were spent searching for turtles. A total of 798 trap-days was recorded from five sites in 1992 and 3408 trap-days from seven sites in 1993.

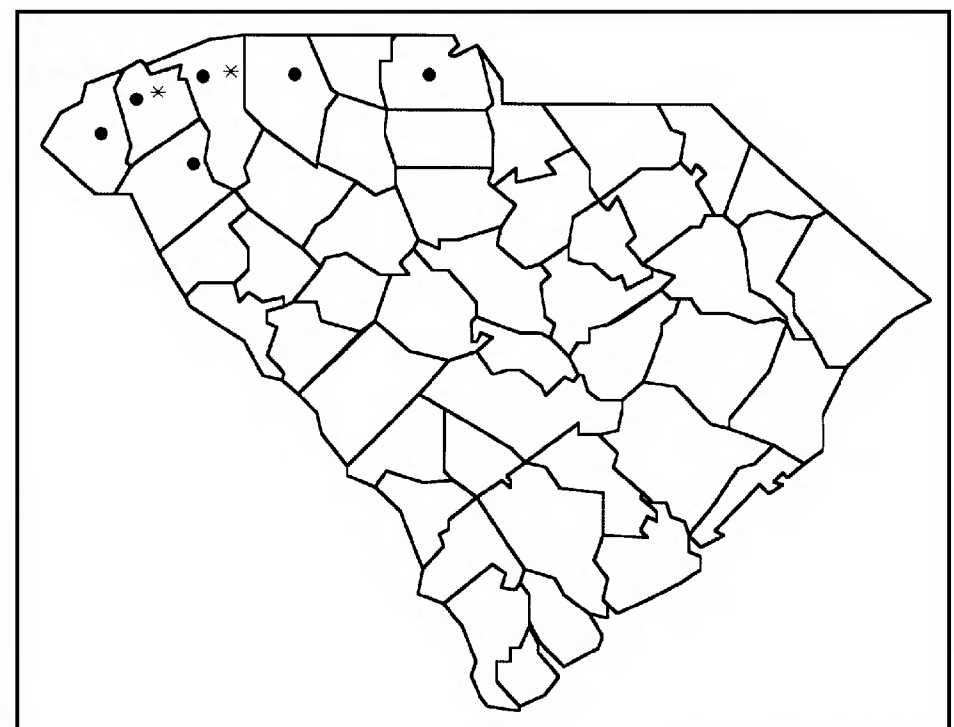


Figure 1. Map of South Carolina. Dots indicate counties that were surveyed for bog turtles (1992-1993). Counties where bog turtles have been collected are marked with an asterisk.

Table 1. Summary of sites surveyed for the presence of bog turtles in South Carolina arranged by county and physiographic province.

County	Physiographic Province	
	Blue Ridge Mountain	Piedmont
Anderson	—	2
Greenville	4	3
Oconee	1	5
Pickens	1	15
Spartanburg	—	1
York	—	4
Total	6	30

The three known localities are all on private property in the Piedmont (elevation ca. 30–110 m). Two of these sites (Herman and Putnam, 1982) are small (< 1 ha) and one is an area of deep mud at one end of a lake. Batson (1991) found a turtle crossing a road; the turtle is believed to have wandered from a nearby wetland of about 2.5 ha, adjacent to a small creek, and dominated by alder and various grasses. All three sites appear to be undergoing vegetative succession to a wooded swamp and do not represent optimum habitat as described by Tryon (1990). Beaver (*Castor canadensis*) activity was noted at all known sites.

The known localities were visited 57 times during this survey and a minimum of 19 hours per site was spent searching for turtles. A total of 2452 trap-days was recorded at these sites. While no bog turtles were captured, our trapping efforts were effective in capturing eastern mud turtles (*Kinosternon subrubrum*), eastern musk turtles (*Sternotherus odoratus*), painted turtles (*Chrysemys picta*), snapping turtles (*Chelydra serpentina*), and eastern box turtles (*Terrapene carolina*).

Three bog turtles were collected by C. Putnam Jr. (pers. com.) during this survey. All were found at known sites in Pickens County. An adult female (carapace length [CL] = 100.9 mm, mass = 147.0 g) was collected in 1992, and a

juvenile (CL = 37.0 mm, mass = 7.5 g) in 1993. A dead juvenile (CL = 48.6 mm) was also found in 1993. Despite an intensive search of wetlands, no hitherto unknown populations were located during this survey.

Discussion

Based on the results of this survey we conclude that the bog turtle is threatened with extinction in South Carolina. While repeated trips to a site may be necessary to verify the presence of bog turtles, the amount of search and trapping effort expended during this study indicates that, while scattered individuals persist at known sites, populations may be too small and isolated to remain viable. Tryon (1990) visited two of the known sites (Herman and Putnam, 1982) and stated that it was “difficult to believe that either [site] . . . could contain any kind of bog turtle population.” He concluded that the prognosis is poor for the continued long-term survival of populations at these sites.

Since 1980 when the first bog turtle was collected in South Carolina (Herman and Putnam, 1982), only five additional specimens have been documented. All records for South Carolina are summarized in Table 2. The status of the bog turtle in South Carolina prior to the first records is unknown. The known sites may have once harbored larger populations, but over the years these populations declined and now only few individuals remain. However, the dead juvenile found by C. Putnam indicates that some reproduction is occurring. It is also possible that the wetlands in northwestern South Carolina represent suboptimal habitat and historically the species may have been rare at the southernmost limit of its range.

Factors contributing to a possible decline in bog turtle numbers remain speculative. The Piedmont has been extensively modified by past human disturbance (Godfrey, 1980), and the destruction of wetlands through filling and draining has probably greatly reduced potential habitat. However, bog turtle populations have been reported from seven counties in the North Carolina Piedmont (Beane, 1993) and the species may persist in some areas despite development pressure. The construction of a series of extensive reservoirs on rivers in upstate South Carolina eliminated associated riparian wetlands and may have extirpated some unreported populations. Natural processes of plant succession from open bogs to a woody

Table 2. Summary of bog turtle (*Clemmys muhlenbergii*) records for South Carolina. Carapace length (CL) and plastron length (PL) in mm, mass in grams. CUSC = Clemson University Museum. NA = Not available.

Collection Date	Collector	County	CUSC #	Marking Code	Sex	Age	CL	PL	Mass
23 August 1980	C. Putnam ¹	Greenville	37-272	Not marked	NA	4+	50.9	42.4	NA
12 May 1981	C. Putnam ¹	Greenville	35-233 (shell)	Not marked	NA	NA	97.5	76.1	NA
18 June 1991	J. Batson ²	Pickens	720 (photos)	1	M	NA	NA	NA	NA
16 May 1992	C. Putnam	Pickens	—	2	F	13+	100.9	80.1	147
April 1993	C. Putnam	Pickens	981-790	—	NA	4	48.6	39.2	—
July 1993	C. Putnam	Pickens	—	3	NA	3	37.0	29.0	7.5

1. Herman and Putnam (1982)
2. Batson (1991)

swamp with subsequent drying of the site may also result in loss of habitat. As an example, one of the known sites in South Carolina is now dominated by red maple, which is considered by some authors to indicate suboptimal habitat (Kiviat, 1978). Processes that maintain open wetland habitat in the Piedmont are poorly understood and Beane (1993) has speculated that Piedmont bogs may be more susceptible to plant succession than montane bogs. Dam construction and feeding activity by beavers may be essential for the maintenance of these habitats in the Piedmont.

Bog turtle populations may also be threatened through competition with eastern mud turtles (Beane, 1993) and predation by snapping turtles (Tryon, 1990). Both species were common in areas surveyed during this study. Furthermore, illegal collecting has contributed to the decline of bog turtles

elsewhere and may be a factor in South Carolina.

Acknowledgments

This project was supported by the South Carolina Heritage Trust Program. Scientific Research Permits were provided by the South Carolina Department of Natural Resources. For assistance with this project we thank Janice Batson, Steve Bennett, Dwight Hanks, Dennis Herman, Mike Knife, Stanlee Miller, Richard Montanucci, Carl Putnam Jr., John Scavo, Joy Schmertmann, Jim Sorrow, Mary Strayer, Randy Swilling, "Big" Jim Westerhold, and the many landowners who allowed access to their property. Kenneth Fahey kindly provided plans for a bog turtle trap. Dennis Herman, Alvin Braswell, and an anonymous reviewer read an earlier draft of this manuscript and provided many useful comments and suggestions.

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Unusual Coloration in a Red-eared Slider, *Trachemys scripta elegans*

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Introduction

During the course of fisheries sampling, two of us (FAC, BJK) collected an unusually colored red-eared slider (*Trachemys scripta elegans*) along with many other specimens of normally colored turtles in an unbaited minnow fyke net, set 22 June 1994 at Airport Lake, St. Charles County, Missouri (NW quarter, sec. 3, T48N, R5E). Airport Lake is a backwater of the Mississippi River and is located at river mile 219. Since such color abnormalities are uncommon, having been reported previously only from commercially raised hatchlings (Cagle, 1947), we describe the specimen herein.

Description

The turtle has the following measurements: carapace length = 128.0 mm, carapace width at the junction of second and third vertebrals = 104.1 mm; maximum carapace width which is near the junction of the third and fourth vertebrals = 107.0 mm; plastron length = 123.1 mm; total wet mass = 402 g. The specimen is morphologically a female, having short foreclaws and short tail base with the anus not extending past the posterior margin of the plastron. Males of equal size have elongated claws and an elongated tail base (Cagle, 1948). The turtle is a three-year-old based on counts of the well preserved annuli on the plastron.

The shell (carapace + plastron + bridge) shows no sign of the green coloration that is characteristic of females of similar size (Smith, 1961). Instead, the carapace is yellowish-tan in color and has black markings (Figure 1A). On the costal scutes, these markings form rounded "V" shapes with the rounded bottom of the V oriented toward the midline of the carapace. Each vertebral scute is marked with a distinct M-shaped black mark that has the top of the M oriented toward the anterior end of the carapace. The marginals, which number 12 per side, are marked with black blotches at their posterior and anterior distal edges. The markings on adjacent marginals are aligned, producing the black blotched appearance. The plastron is yellowish with a single black, solid-colored oval blotch on each scute except for the turtle's left femoral scute which has two such marks (Figure 1B). Such markings are consistent with the developmental pattern found in females reported by McCoy (1968). On each side of the bridge, two black blotches are present and are accompanied by black reticulate markings. The yellowish coloration of the plastron and the underside of each marginal is brighter than the coloration of the carapace.

The soft parts of the turtle (head, neck, limbs, and tail) are normal in color and fit descriptions provided by Cagle (1950), Carr (1952) and Smith (1961). The "ear" is distinct and bright red in color.

Discussion

So far as we can determine, similar coloration has not been previously described from natural populations of the red-eared slider. It most closely approaches the yellow hatchlings reported by Cagle (1947) from individuals gathered for the commercial pet trade in Louisiana. Cagle (1947, p. 1) reported three such turtles from a sample of "more than 30,000 hatchlings." However, the specimen we report has normally colored skin on the body, head and extremities along with some black markings on the carapace and black markings on the scutes of the plastron. The hatchlings reported by Cagle (1947) had no green coloration on the head and no black markings on the carapace or plastron. Apparently, we found yet another genetically or environmentally induced variation not necessarily identical to that reported by Cagle (1947). We speculate that loss or suppression of the ability to produce the green coloration usually present on the carapacial scutes produced the color pattern observed.

In some ways, the turtle's coloration resembles that of melanistic males (Cagle, 1948; Carr, 1952). Conant and Collins's (1991, Plate 7) illustration shows the characteristic horn-colored shell found in melanistic males as well as the black borders on each of the carapacial scutes. However, the

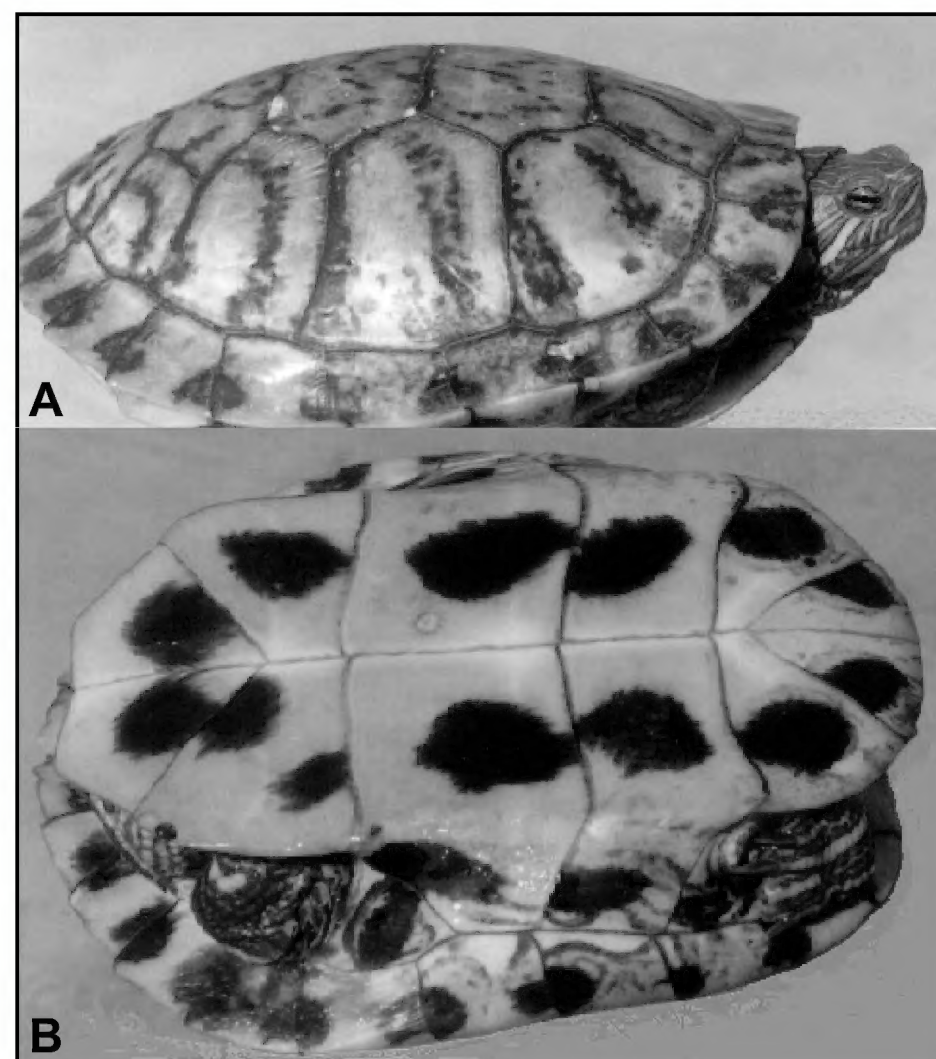


Figure 1. A) View of carapace of a specimen (INHS 11419) of *Trachemys scripta elegans* lacking green color in the shell. B) View of plastron of the same specimen.

turtle that we report is externally a female (Cagle, 1950). Furthermore, her color pattern does not have the pronounced black borders that characterize melanistic males. She also retains the bright yellow and red pattern on the forelimbs and head, which are lost in melanistic males.

The color pattern we report is apparently quite rare in nature. The fisheries program has collected over 1000 *Trachemys scripta* from various areas on the Mississippi River in

Pool 26 in the last three years, and all were normally colored. The turtle has been deposited for study in the collections of the Illinois Natural History Survey (INHS 11419).

Acknowledgments

This work was partially supported by the Illinois Natural History Survey and the Upper Mississippi River System Long Term Resource Monitoring Program.

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Bull. Chicago Herp. Soc. 30(7):149-151, 1995

Keeping Reptiles, Smuggling Wildlife, Wildlife Bureaucrats *Smuggled-2, An Australian Perspective*

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PART 4. NARAMA, THE WORLD CONGRESS AND OTHER ISSUES

NARAMA

The NARAMA Reptile Display was organized by Robin Noye with his company, Wildlife Educators, and set to coincide with the Second World Congress of Herpetology over Christmas/New Year 1993-4. NARAMA aimed to put on public display at Adelaide's Wayville Showgrounds the largest-ever collection of Australian reptiles.

Getting hold of the reptiles for the display was anything but an easy job. Noye approached keepers and zoos around the country to borrow reptiles and most of those approached were willing to lend reptiles. The problem of course was the wildlife authorities. Because David Barrington of SA/NPWS was on side, getting most of the relevant import/export permits wasn't as much of a headache as expected. However problems still arose. The Western Australian wildlife department (CALM) simply refused to be a part of it and ignored all correspondence in relation to the matter. They later claimed to have "lost" or "misplaced" the relevant import/export requests. CALM was subsequently accused of having no real interest in public education on wildlife. Other states were however more cooperative. From a public education view-

point, NARAMA was a major event.

Noye also struck trouble within his own state however. After obtaining a permit to collect reptiles in South Australia specifically for the NARAMA display, Noye and a group from the South Australian Herpetology Group went with NPWS's approval to the state's northwest, to collect reptiles. However one particular officer, Nick Bailey, decided to mount a full-scale bust. In Noye's words he

just decided to be a bit vicious, . . . he went through everything, . . . he accused me of being a dealer in illegal reptiles. . . . We all had the correct permits. . . . He went through everybody's bags and everything without a search warrant, he was hoping for a big bust but he got nothing, . . . he just doesn't like me. . . . He knew very well that we were up there and he knew very well that we had the correct permits. . . . What he's trying to do is redeem himself.

According to Noye, Bailey had come into strife over a failed attempt to close down the Whyalla Steel plant in an exercise where he had overstepped his authority. Noye said, "This guy's on tenterhooks . . . half the people within the National Parks would like to get rid of...[him] anyway."

Following an official complaint put in by the group,

Bailey's superior apologized over the incident. Bailey himself was not in any way disciplined. To do such a thing against a public servant in Australia is virtually impossible.

The Congress

The Second World Congress of Herpetology was by all accounts a success. Over 700 delegates consisting mainly of scientists attended the week-long gathering at Adelaide University. About half who attended had come from overseas. Prior to the congress, Federal Authorities received 12 applications from foreigners to legally export reptiles for research purposes. All were rejected [but see Harold De Lisle's Letter to the Editor in the May 1994 CHS *Bulletin* 29(5):104]. In Melbourne a Customs Official said "Australia won't allow the export of wildlife for any reasons." Such a blinkered attitude did nothing for Australia's already notorious international reputation. It only encouraged otherwise law-abiding people to break wildlife laws. Two later applications were eventually allowed, but both were only approved following the intervention of a senior official.

Federal Customs and all state wildlife departments mounted a full-scale operation to coincide with the congress. One delegate got busted bringing a few preserved specimens into the country. A second was picked up importing some live freshwater tortoises, while a third was found to be carrying a minuscule amount of dope (marijuana) on his person when strip-searched at Mascot Airport. After he was able to show he'd been advised by an official in the United States that it was legal to carry dope in Australia, the charges were dropped.

Using a list of all attendees, provided beforehand, all were scrutinized closely. Two people complained of officials following their cars when leaving the congress. An American delegate, Mark Miller had an electronic tracking chip placed under a wheel on his suitcase by officials without his knowledge when he arrived at Sydney airport. Others also had their possessions tracked. Perhaps if some trade in reptiles had been allowed, this whole expensive exercise could have been avoided.

Peter Mirtschin gave the congress a lecture on Australian wildlife protection laws, entitled "The Big Conservation Facade." He quoted official figures from nine state wildlife departments and from customs, which showed that over a nine-year period, all seven state wildlife departments and customs had by their own figures seized only 956 illegally exported birds, reptiles and eggs. He noted that one feral cat killed up to 800 native animals per year, and annually all Australia's feral cats killed 3.2 billion native animals. He suggested that the huge budgets spent by these departments on so-called conservation would in fact have been better utilized with the buying of just one bullet to shoot just one cat. He also presented a graph showing the relationship between increased wildlife bureaucracy/regulations and extinctions in Australia. Whilst no laws or anarchy isn't a feasible alternative, the graph did show a direct linear correlation between increased bureaucratic regulation and extinctions over the last 20 years. In a letter published in the *Advertiser* (Adelaide) in late 1993, Mirtschin suggested wildlife officials should stop "promoting

their own self importance" and instead be "basing their own salary increases on converting net losses of wildlife to net increases."

Mr. Bill Love, the American owner of the Glades Herp wildlife dealership, gave a lecture at the congress on the adverse impact of Australia's wildlife laws on conservation and advocated legal export of reptiles and birds. His comments were picked up by the national print and electronic media with the result that Love became an instant celebrity. Wildlife officials didn't hesitate to put out media releases condemning Love's views.

At the end of the congress the delegates passed a draft resolution which said:

Acknowledging that many herpetologists develop their interest and much of their training with captive amphibians and reptiles . . . concerned that many current conservation laws are ineffective for the conservation of biodiversity in that:

- a) they are written for ease of enforcement
- b) they provide limited protection for animals but not their habitats, and
- c) they seriously inhibit and restrict herpetologists from aiding conservation.

This, The Second World Congress of Herpetology in Adelaide, Australia, on January 3, 1994, and thereafter:

Urges a review of current legislation to ensure the conservation of the biota...'

Too Hot to Handle

Dr. Allen Greer, Reptile Curator at Sydney's Australian Museum has noted how if one belongs to a "protective bureaucracy" such as a museum or university, one's relationship with officials from wildlife departments is often different to those not afforded the same protection.

Dr. Richard Shine, a professor and zoologist at Sydney University, notes how he is constantly being offered animals seized by NPWS officials on raids but has repeatedly refused such offers. In 1994 he said "I just didn't want to become a part of the Rambo-style crap these guys are on about . . . busting innocent keepers and ten-year-old kids. I'd rather keep right out of it." Shine also played a major part in attempting to remove diamond snakes from the NSW/NPWS endangered species list (Schedule 12), by sending a five-page submission on the matter. It is notable that Shine, the world's foremost authority on this common snake wasn't consulted by officials based a few miles away at the time it was wrongly declared endangered.

Universities are often regarded as too hot to handle. Allegations are rife of particular university- and museum-based scientists overcollecting animals allegedly for research purposes. In New South Wales, a university-based researcher was given a permit by NPWS without question to kill 200 tortoises to study gut contents. The same study could have been conducted by stomach pumping, which wouldn't have harmed the animals.

Throughout the 1980s frogs and geckos were being sent illegally from various Pacific islands to the Australian National University (ANU) for research purposes. Although there is

little doubt that permits would have been issued for the import of the animals, animal keeper at ANU, Ron Dencio, noted that the scientists thought they were “above the law” and didn’t want to waste time with the paperwork. Customs officials never prosecuted anyone over these imports.

A visiting fellow at ANU in the mid-1980s by the name of Eckhardt tested his position to its limits. Although he was a neurobiologist from Bonn, Germany, his main passion was for reptiles. In fact he had a private zoo back in Germany.

While at ANU, Eckhardt went on a number of trips to various parts of the country to illegally collect reptiles, including a substantial number of scrub pythons (*Morelia amethistina*). These he brought back to ANU, whereupon they were posted in cardboard boxes to a friend at a university in Israel, who redirected them to the German university.

According to Dencio, who was an animal house keeper at ANU at the time, several things led to Eckhardt being “found out” as a smuggler. Suspicions arose when he boasted how he smuggled reptiles out of the U.S. He put “baby diamondbacks (rattlesnakes, *Crotalus* sp.) . . . in his pockets . . . and just carried them out in his pockets.” Furthermore, according to Dencio, reptiles were showing up “everywhere in the university” and then disappearing. Further down the track, one of the researchers from Eckhardt’s own school went to Japan for a conference and flew back via Germany where he happened to drop in to the university Eckhardt was affiliated with. Coworkers told him about the parcels being sent from Australia, via Israel to Germany.

Although Dencio reported that attempts were made to stop the operation “authorities were disinterested.” It was in his words “too hot to handle.” Eckhardt was finally put into line when two anonymous tip-offs flagged him on the Australian Quarantine Service (AQUS) computer system. Because enforcement officials were unsure as to the source of the tip-offs and it may have been a more senior official, they were forced to act. According to Dencio, AQUS (quarantine officers), customs and wildlife Officials from NSW, the ACT and Queensland all became involved in the case. Dencio reported, “they were doing this under duress, because if they didn’t, they didn’t know what might happen. . . . They cornered him and made threatening noises at him.” In the end officials “made threatening noises at him and . . . took virtually no action.” Eckhardt was allowed to leave the country without ever being prosecuted.

According to Dencio, nothing was ever reported about the case in the media as wildlife officials and ANU “didn’t want this one to get out.” Dencio went on to say:

The ANU would have done everything to request them not to do anything, because it might become public, because the ANU, one of the biggest worries they always have is a scandal, if a Vice Chancellor or someone was notified of it, the first thing they’d want done is it to be hushed up. They wouldn’t want anything to get out about it because they just don’t want a scandal and anything that might affect funding from the Government.

CALM in the Storm

Many conservationists claim the Western Australian Con-

servation and Land Management Department (CALM) is a lost cause. CALM is unusual among Australian state wildlife departments in looking after forestry as well. Ironically, the department itself is one of the greatest potential threats to wildlife in the state through habitat destruction caused by its own forestry activities. CALM has repeatedly come under fire from both conservationists and foresters for bad and unaccountable practices.

In one incident, CALM was supposed to burn 20 percent of a forest in a controlled burn. It ended up going out of control, burning about 90 percent of the forest. Executive Director Syd Shea appeared in the media claiming the burn was a complete success. It seemed as far as he was concerned, CALM could do no wrong.

A Canberra-based herpetologist attempted to legally export his own privately held reptiles to Perth, where he had taken up a job as zookeeper. In spite of two years of attempting to get the relevant permits, he wasn’t able to import the animals. He even met with Syd Shea but got nowhere. He later commented, “he’s got an IQ below five and basically the only good reptile is a dead reptile as far as Syd Shea would be concerned.”

Those comments were corroborated by a policy statement signed by Shea dated November 24, 1992. He advocated tough restrictions on keeping reptiles largely on the basis that “many species will breed in captivity.”

In spite of full knowledge of the endangered status of western swamp tortoises (*Pseudemydura umbrina*), their numbers have steadily declined over most of the last 20 years. Due largely to recent captive-breeding efforts at Perth Zoo, numbers are again on the rise. However this project is now under threat by CALM and zoo management who wish to cut funding. Keepers at Perth Zoo have even gone on strike over the issue, manning picket lines with placards outside zoo gates. At the time of writing, former zoo staff told me morale was at an all time low. Fortunately, the animals are still being looked after during these disputes.

Shea’s lack of interest in, or knowledge of wildlife was demonstrated when he refused herpetologist Brian Bush authority to hold certain reptiles for public education displays. In a letter dated 10 January 1989, Shea told Bush his reply was “not negotiable” and that “the public would not generally recognize the difference between the death adder and the mulga snake.” Without going into a snake identification lesson, it is worth mentioning that death adders (*Acanthophis* spp.) have markings, are stout, with large heads and average about 60 cm, while mulga (king brown) snakes (*Pseudechis* spp.) are unmarked, of slender build, have normal sized heads and average about 2 m. Furthermore, Bush wanted the snakes to help members of the public tell the difference!

This concludes a series of four excerpts from Raymond T. Hoser’s forthcoming book, Smuggled-2. If you enjoyed them, keep an eye out for the new book. Meanwhile, if you’d like to order one of his previous books, see Mr. Hoser’s line ad elsewhere in this issue.

**Book Review: *How to Photograph Insects & Spiders* by Larry West with Julie Ridl
1994. 118 pp. Stackpole Books. \$16.95 softcover. ISBN 0-8117-2453-0**

**Manny Rubio
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Atlanta, GA 30318**

Modern, do-everything cameras have made quality photography simpler (a debatable issue with some) and available to the expanding amateur market. Naturalists can almost effortlessly carry a camera with a macro-zoom lens into the field and capture images as they unfold, providing natural history data that can be recorded in no other way.

To cultivate their photographic prowess many advanced amateurs seek out information from seminars, workshops and a never-ending array of "How To" books. In my 30-plus years as a professional photographer, I admit to having attended a variety of seminars, and reading more than my share of specialized books. During my ongoing quest to improve, I have never been too jaded to look to the success of others. I have always felt that if I could learn even one new technique or trick through reading or by attending a seminar, my time was well spent.

At any given time a half-dozen or more nature photography books can be found on the shelves of bookstores or larger camera shops. Their quality varies considerably; some contain little information, show terrible images, or rehash the work of others. Too many mask a weak, cursory text with a collection of boldly reproduced photographs. Many cause me to question whether the author's intent was merely a self-serving manifestation of ego, or a method of financing a habit.

Not so in this case, however. Simply put. . . . This book is a gem!

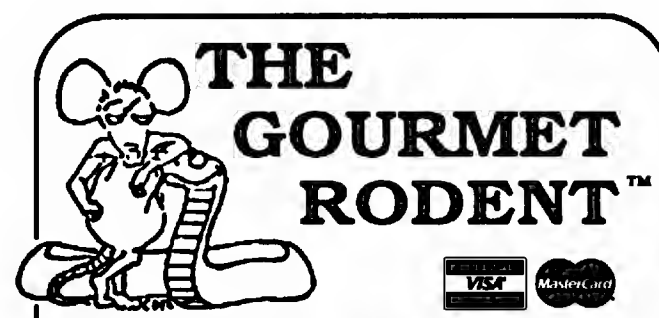
By accepting the seductive invitation of the praying mantis, peering from the cover, you will enter Larry West's miniature world. During a two-hour journey you will experience the realm of the arthropod. You will leave with a new understanding of nature, and will have learned macro photography from one of the world's most successful nature photographers. Through its more than 100 beautiful images, this little book makes you privy to a unique vision, honed from the experiences of 3½ decades of traipsing about the earth's wild places. At the same time it assaults your synapses with a disarming package of practical information. Perhaps the most fascinating thing is that this book proves you need not travel to the world's "great places" to make great photographs, rather you must learn to be aware of your surroundings. The majority of the images in this volume were taken within walking distance of the author's home in Michigan.

Before this book, West and Ridl produced a very good companion volume on photographing birds, and it appears that other titles are forthcoming. While West admits to a long-time fascination with insects, spiders and other arthropods as the reason for this book, he delves deeper, exposing an intricate philosophy about the preservation of all wildlife.

I found only one minor problem with this book; actually it may be a quirk I have with the work of co-authors. A majority of the text is written by Julie Ridl about West and his shooting methods. Abruptly (without transition) the narrative becomes first person, with West's comments. Just as abruptly, it changes back again. Regardless, the text is readable, sound and informative.

While other naturalist authors use elaborate setups and equipment, West prefers a less complicated approach. Instead of buying and carrying a variety of paraphernalia he suggests that money is better spent on a few, select, high quality pieces. The basic field outfit is a camera body with mechanized film advance, a telephoto macro lens, closeup lenses (2-element diopters), and one TTL (Through-The-Lens reading) flash. He feels it is careful preparation and a thorough understanding of the tools that enable you to react quickly to capture macro subjects that are prone to move. Also, a little research into the natural history of the animals you wish to photograph will help you to locate and realistically represent them.

Since the majority of amphibians and many reptiles are equal in size to arthropods, and present similar problems in photography, West's techniques are interchangeable and invaluable. I have no doubt that if you take a few hours to read and assimilate the text, the quality of your images will improve greatly. Also, you will be more aware of the Lilliputian arthropod world that is so closely interrelated with amphibians and reptiles, while gaining new insight into the importance of protecting our natural heritage.



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HerPET-POURRI

by Ellin Beltz

Dear Readers: After offering my e-mail address for the last few issues, only a couple of CHS members have been sending me things for my column. However, I've gotten lots of interesting tidbits from other people; the sea turtle group is quite active. I thought you might like to see what the Internet has to offer herpers — so far. It seems as though more and more is available every single day. The following items have been edited, some severely. Next month, we go back to regular format, so please keep sending cards, letters, photos and clippings (date and publication a must) to: Ellin Beltz, 1647 N. Clybourn Avenue, Chicago, Illinois 60614.

- Please note that the URL/address for FROGLOG on WWW has changed.

Old address:

<http://acs-info.open.ac.uk/info/other/FROGLOG-11.html>

New address:

<http://acs-info.open.ac.uk/info/other/FROGLOG.html>

John Baker, DAPTF, Department of Biology, Open University, Walton Hall, Milton Keynes, MK7 6AA, UK. 19 May 1995.

- The Houston Post [3/9/95] reports that a “record number of sea turtles washed up dead on the Texas coast last year . . . 526 stranded . . . a total roughly equal to the three previous years combined. About half were endangered Kemp’s ridley sea turtles.” 14 Mar 1995. Michael Coyne.

- [At] . . . Ostional Beach in Guanacaste, Costa Rica, . . . tourist investors have targeted arribada beaches in the pursuit of their economical interests. My brother recently sent me a copy of an article from a Costa Rican newspaper (*La Nacion*, February 19, 1995) in which [the community of] Ostional publicly stated its concern about the development of an ambitious tourist project. . . . [They plan] to sell 56 parcels of land from 1000 to 16,000 square meters just after the 200 meters from the mean high tide that constitute the upper limit of the National Wildlife Refuge of Ostional. . . . At this point it is uncertain which government agency is going to approve the construction permits and which regulations are going to be applied. A project of this type can not only affect the turtle population but also one of the few social oriented and successful wildlife management projects in the world. 15 Mar 1995. Mario Alvarado.

- Paying volunteers are sought for the 40th annual green turtle tagging project at Tortuguero, Costa Rica, July 15–September 2, 1995 Contact: Caroline Reiners, Tortuguero Coordinator, Caribbean Conservation Corporation, P.O. Box 2866, Gainesville, FL 32602, (904) 373-6441, fax (904) 375-2449. 6 Apr 1995.

- The beaches of Playa Grande and Playa Langosta in Costa Rica are on their way to being saved. . . . The Minister of Natural Resources Energy and Mines has agreed to recommendations to save and consolidate Las Baulas de Guanacaste National Park so as to protect these beaches. . . . The Ministry will now request that the Costa Rican Congress immediately pass a law to make Las Baulas a permanent Park by law. The number of guards will be increased to 12 during the nesting

season, a plan for consolidation will be developed, land purchased for an administrative center and 2 guards placed on Playa Langosta throughout the year. 20 Apr 1995. Jim Spotila.

- I’ve just returned from a long field stint in Ostional looking at the potential for ecotourism as a developmental resource.. The tourism project mentioned in *La Nacion* isn’t a tourist project so much as the private sale of individual lots for individual homes. Presumably most buyers will be foreign. The German who owns the farm (yes it is the same one the association tried to buy) is making an effort to ensure the development will be turtle sensitive. . . . There are legal precedents restricting the rights of developers inside wildlife refuges and within certain distance of the coast. The problem is these are rarely enforced before development, but rather fines are tacked on afterwards. As far as I know, current developments fall outside of wildlife law jurisdiction, but the efforts of the Ostional development association to expand its planning and regulation power for land outside the refuge through an integral management plan may help rectify the situation. The problem is the plan has been on the boards for several years and nothing is happening very quickly. Also of note. Current tourism projects run by locals are not all exactly legal, and current regulation enforcement would only hurt local businesses. Also increased regulatory power to the association may not improve the situation. An new association executive has just been elected and they are fairly pro-tourism. I am holding my breath. 28 Apr 1995. L. M. Campbell.

- A Reuter’s report by Jane Sutton reads: “Florida’s Jupiter Island residents vote next Tuesday on a \$12 million bond issue for a beach rebuilding project that could ultimately help save or be stalled by giant sea turtles, the mayor said Tuesday. . . . Proceeds would be used to dredge offshore and pump sand back onto the beachfront, replenishing a 4.5-mile strip that has already eroded to 15 feet across in some spots. The island’s shrinking beachfront is a prime nesting spot for loggerheads, leatherbacks and green sea turtles, all of which enjoy state and federal protection. If the beach erodes much more, ‘It will remove one of the favorite, if not the favorite, nesting spots in the United States,’ said Mayor Russell Simpson. . . . If the referendum passes, the town would have to get state and federal permits to do the work during the May to October nesting season. It would also have to move the nests away from the work area. . . . Jupiter Island has 488 homes and only one commercial property, a golf course, with a total appraised value of \$680 million.” 11 Apr 1995. Allen Salzberg.

- On April 26, 1995, NMFS officials reported 11 endangered sea turtles had been found dead on Corpus Christi, Texas, area beaches in the last ten days; four turtles appeared to have human-inflicted mutilation. On April 27, 1995, the Coast Guard announced that it will begin enforcing more stringent NMFS regulations on shrimp trawlers the following week due to increased turtle mortality. NMFS reported 74 dead sea turtles thus far in April (including 47 Kemp’s ridley turtles) and 116 since January on Texas beaches. [Assoc Press]

28 Apr 1995. Alan B. Bolten.

- The Sea Turtle Stranding Tragedy of 1994 is occurring again. Strandings are 30 percent higher this year despite NMFS's Emergency Response Plan (ERP). . . . [In 1994, there were 55 strandings from January 1 through April 16; in 1995 71 turtles including 19 Kemp's ridleys have washed up.] 27 Apr 1995. Earth Island Institute, Todd Steiner, 300 Broadway, #28, San Francisco, CA 94133, (415) 788-3666, fax (415) 788-7324.

- From MTV Text (MTV Europe): "Illegal construction on the Ionian island of Zakynthos threatens the nesting grounds of endangered sea turtles, weeks before they begin laying eggs in the sandy beaches, environmentalists said on Friday. An illegal road to unblemished Sekania beach, where about 60 percent of the *Caretta caretta* marine turtles nest, has opened the way for tourist, tavernas and beach umbrellas, officials from the WWFN said. 'Sekania is the most important breeding ground for turtles in Zakynthos and the Mediterranean.'" 7 May 1995. Jan Winters.

- The sea turtle license plate ran out of time. . . . The Florida state legislature did have time to pass the summer beach renourishment bill—which now goes to the governor for signing. . . . By the way, . . . just before the Senate voted on the summer beach renourishment bill, the U.S. Fish and Wildlife Service (Regional Director Noreen Clough) faxed a letter to the President of the Senate and Florida's Governor informing them that even if Florida passed this law, the Service "intends to continue to issue Section 7 biological opinions that require nourishment projects in the six-county region (where nesting is most dense) to take place outside the peak nesting period." The letter also warned that permitting for nest relocation would no longer be within the jurisdiction of the state because DEP would no longer be in compliance with the Section 6 Cooperative Agreement. 8 May 1995. David Godfrey, Sea Turtle Survival League, Caribbean Conservation Corporation, (904) 373-6441.

- A bill written by industry lobbyists attempting to remove protection for sea turtles provided under the Endangered Species Act (ESA) was released on May 9 by Senator Slade Gorton (R-WA) and cosponsored by Richard Shelby (R-AL) and Bennett Johnston (D-LA). The bill introduced in the Senate (S. 768) is yet another attempt to turn back the clock on important environmental protection and weaken the ESA. This is expected to be the primary ESA bill in the Senate this year. . . . Sea turtles have survived since prehistoric times, but they may not survive the Gorton bill. The bill (at Section 403) expressly targets sea turtles, marine mammals and other marine species (except fish) by exempting them from ESA protection against being "taken" or killed during fishing and other activities in marine waters. According to the National Academy of Sciences, as many as 55,000 sea turtles were killed annually by shrimp fishing alone before regulations protecting sea turtles were implemented under the ESA in 1989. The regulations require that shrimp nets contain turtle excluder devices (TEDs) to eject sea turtles through trap doors, while allowing shrimp to pass into the nets. Since the adoption of the TED regulations, many fishermen have successfully reduced sea turtle mortalities, while also reducing damage

to their catch, fuel costs, and sorting time. The Gorton bill would repeal the TED regulations that protect sea turtles. Five endangered and threatened sea turtle species inhabit U.S. waters: the hawksbill, green, loggerhead, leatherback and Kemp's ridley sea turtles. Of the five, the Kemp's ridley is the most endangered. Populations of adult nesting female turtles have declined from over 40,000 in 1947, to less than 2,000 today. 16 May 1995. Center for Marine Conservation. (202) 429-5609.

- On Sunday, May 28, sea turtles were declared cool on the World Wide Web. Glenn Davis selected Turtle Trax, a page devoted to marine turtles, as the Cool Site of the Day. This resulted in visits from over 40 countries. There were over 700 requests for the Turtle Trax page containing information on Senate Bill S-768. We are also in the process of writing a letter to each of the 100 U.S. senators opposing this bill. We are encouraging the Internet community to write their own letters as well. Something else really neat is happening. Other homepages and servers have requested permission to link with Turtle Trax. That too, is really rewarding. Ironical too, that just at a time when sea turtles are threatened by a man named Gorton, another has declared these flippered wonders really cool. <http://www.io.org/~bunrab> 29 May 1995. Ursula Keuper-Bennett

- Jack Markham, a Navy natural resource specialist stationed in Guantanamo Bay, Cuba, would like to spread the word there on sea turtle conservation. He would like to receive any and all educational materials on sea turtles, especially conservation, which he can pass along in Cuba (e.g., posters, flyers, etc.). He is especially interested in receiving info in Spanish (is the Spanish version of "sea turtles of the world" poster still available? Any help would be greatly appreciated. Material should be directed to: Jack Markham, 509 Greenway Dr., Chesapeake, VA 23320, (804) 436-5521. 1 Jun 1995. John A. Keinath.

- The Sea Turtle Protection Society of Greece (STPS) is a non-profit organization founded in 1983 to study and protect sea turtles and their nesting habitats in Greece and also to inform the authorities and the public. It is a member of the European Environmental Bureau (E.E.B.) and the European Union for Coastal Conservation (E.U.C.C.). The STPS conducts programs in cooperation with the E.U., central and local authorities, universities and other organizations. . . . It functions in cooperation with the Port Police Authorities throughout Greece. A Sea Turtle Hospital is planned by the STPS in cooperation with the municipality of Glyfada. The STPS revenues originate from private donations, membership fees, STPS publications, the "Adopt a Sea Turtle" scheme, etc. Also, some of the above programs receive financial assistance from the E.U. and W.W.F. Greece. The STPS programs are labor intensive and depend largely on volunteers. A contingent of more than 300 Greek and foreign volunteers work on the STPS programs every summer. 9 Jun 1995. Sea Turtle Protection Society of Greece, Solomou 35, 106.82, Athens, Greece, 301-3844146.

- Concerning the bill on coastal armoring (HB 251) now awaiting the signature of the Governor of Florida . . . , if this bill becomes law, it will be as detrimental to the Western

Atlantic loggerhead population as a repeal of the TED regulations. . . . [It] passes control of armoring from the state to local governments. There will be few county commissions or city councils that will be able to resist the impassioned pleas of beach front property owners whose homes or businesses are threatened by erosion. There is, as you know, considerable evidence that suggests the sea level is rising. This bill would make the piecemeal armoring of Florida's coastline virtually inevitable. . . . Where armoring has already occurred, it has usually resulted in the loss of the dry backshore required for nesting. Within the Archie Carr Refuge area there are now several homes and motels that are currently perched on the edge of the dune scarp and are prime candidates for seawalls. As David pointed out, this bill would allow those property owners to petition the Brevard County Commission for permission to armor. It is my understanding, admittedly third hand, that at this time the Governor intends to sign this bill. Please call Governor Lawton Chiles at (904) 488-4441 or fax him at (904) 487-0801 urging him to veto this bill. Ask your friends, relatives, and colleagues to do the same ASAP. Thanks, Bill Redfoot. 2 Jun 1995.

- I recently spent some time in the North China Sea off the northern coast of Palawan on the small island of Malapacao. Thereon is a property owned and maintained by an Australian who has lived on Malapacao for the past nine years. Her resources and technology have been quite limited with almost zero communications, but she runs a small resort to finance her turtle preservation efforts. She is an intense defender of sea turtles in the entire region, and would like to receive information or newsletter from your organization. I promised I would relay the message to you upon my return to the U.S. She has no telephone or online access of her own. Her address is: Mrs. Lee Ann Cruz, c/o Mr. Peter Bodora, P.O. Box 789, Manila, 1099, Philippines, or fax, c/o Mr. Bodora, 00632 632 68. 10 Jun 1995. M. Clarke

- We were recently trapping mice in southeast Missouri with snap traps. While we were checking them we discovered a Three-toed box turtle feeding on a mouse carcass in one of the traps. I was really amazed to see that box turtles scavenge. Has anybody else seen this behavior before? In addition to the mammals we caught several herps. These included a black rat snake, box turtles, and gray treefrogs. We were using a mixture of oats and peanut butter. This mixture attracted a lot of ants, which I feel may have been responsible for capturing the frogs and turtles. The snake probably wandered in by accident. Has anybody else had similar experiences while mammal trapping? 31 May 95. Richard L. Essner.

- There is still some room in our summer green turtle program at Tortuguero. . . . For more information about becoming a Green Turtle Program volunteer or to "adopt" a Tortuguero turtle from Caribbean Conservation's Sea Turtle Survival League, call (800) 678-7853. 15 Jun 1995. David Godfrey.

- [A] new webpage . . . [provides] emergency first aid and medical consultant services in the event of a venomous snakebite by a North American species. . . . We have also provided a link to the excellent ww database of venomous snakes, anti-venom sources, toxicologist directory and poison control center listings. This is put up by Professor Gopalakrishnakone

in Singapore and was suggested by Blaise Druz in Switzerland. An additional link to the TOC of the book "Medical Herpetology" is currently under construction but appears on the page although not functional at this moment. Thank you all for your input, in the past and in the future. North American Snakebite Emergency WebPage URL:

<http://www.xmission.com/~gastown/herpmed/snbite.rev>
10 May 1995. Steve Grenard.

- Reuters reports from Shanghai, China: "Snakes are being sneaked into Shanghai schools, diverting children from their studies and frightening the faint-hearted... The small snakes, teeth removed, are sold by dealers to students at breaktime, it said. In some schools, there are students in every grade who play with snakes hidden in tins or pencil-boxes during class, with up to seven in one class, it said. In one case, a teacher was going to the toilet in the afternoon when he spotted a snake and ran out in terror. In another case, a teacher who had confiscated a snake and left it for dead in a box, opened it to find it was alive. The snake slipped out, causing panic among staff. The paper called for strict measures to prevent dealers selling snakes to students and to stop children playing with snakes at school. " 7 Jun 1995. Allen Salzberg.

- Reuters reports: "Windsurfers on a British lake were told Monday to watch out for an errant crocodile. Experts believe the crocodile, first spotted by a startled couple visiting the lake, was originally imported as a pet and then freed when it became too big to handle. Crocodiles are not indigenous to Britain. 'It doesn't surprise me at all that someone would do this,' said Chester Zoo's reptile curator Keith Brown. 'It is the goldfish down the toilet syndrome.' Warning signs have been put up at Astbury Water Park near the northern English town of Congleton and visitors were told not to feed the croc." 7 Jun 1995. Allen Salzberg.



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NEW TLINE

Maneuvering through the snarled traffic created by Chicago's ever popular Blues Fest was a nightmare for some on their way to the



May 31, 1995, meeting of the Chicago Herpetological Society at the Field Museum. President **Marcia Rybak** was out with a migraine so **Ron Humbert** graciously ushered our new Vice President **Chris Lechowicz** to the podium. Chris asked for our patience and understanding being that this was his first time leading the meeting. Membership Secretary **John Driscoll** reported a membership total of 1,750 and reminded us that Expo T-shirts could still be purchased for only \$12. **Char Haguewood** thanked Ron Humbert for his inspiring job on the Expo and announced that she was anxiously awaiting the hoopla for the upcoming Midwest Herp Symposium on October 20-22. In her capacity as "adoption lady" she announced that an abundance of iguanas, caiman, snappers and red-eared turtles were available. Show chairperson **Sally Hajek** had nothing new to report on upcoming shows. Shedd Aquarium spokesperson **Karen Furnweger** suggested we show our support by attending the sentencing of an individual who had been convicted of illegally importing pancake tortoises. Sentencing was scheduled for Tuesday, June 6, at 11:00 A.M. in U.S. District Court Room 1941. Ron Humbert announced that next month's annual "Show & Tell" meeting would indeed be held at the Field Museum. There had been a question as to whether the museum would allow any live animals on the premises. The museum's Vice President of Academic Affairs, **Peter Crane**, agreed to the Show & Tell meeting under the following conditions: No venomous or dangerous reptiles; no illegal federally or state endangered/protected animals; no selling or exchanging of animals; and all animals must be housed in a proper containment. Ron suggested participants show up early around 7:00 P.M. to set up their herp displays and sign up for the stage.

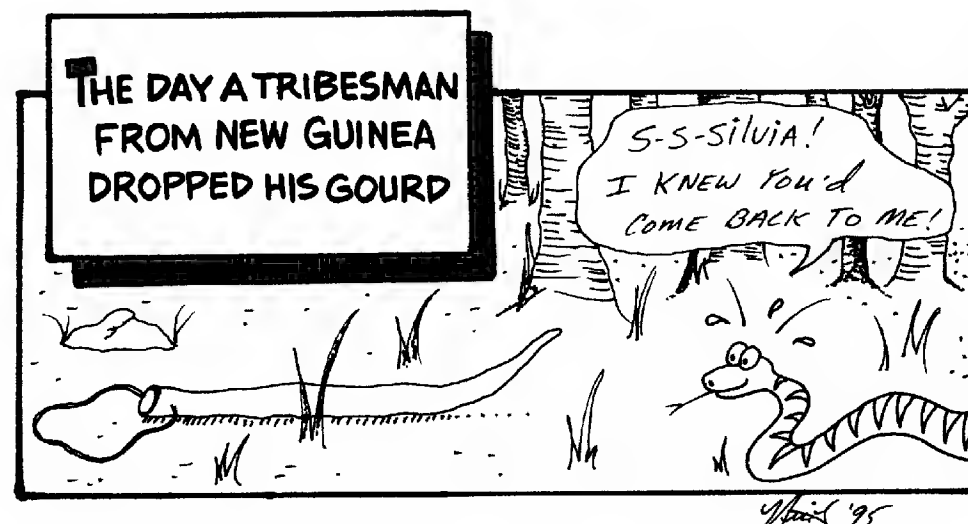
Ron also reported that the Expo was a success and thanked all 55 exhibitors, as well as those who volunteered and participated. This year's Expo broke all attendance records (3,500 people in two days) and grossed nearly \$13,000 in combined admission fees, raffles and services. Special thanks went to **Bob Bavirsha** for arranging the 25-foot-tall helium-filled Godzilla; the Nichols Middle School's **Mike Kaplan** who brought 12 student volunteers; **Marcia Rybak** for all her hard work in arranging the monumental publicity; **Jill Horwich** for handling the program details; **Claus Sutor** for helping with the floor plan and table set-ups; **Brian Jones** for his help with the displays; **Gary Fogel** for handling the currency; **Art Nohlberg** for keeping the crowd under control and coordinating security; **Mike Dloogatch** for setting up the large display module; **Jenny Vollman** for assisting **Joan Moore** with CHS merchandise sales; **Bob Hilger** for allowing his large boa to be photo-

graphed with visitors; **Ben Entwisle** for providing that photography; **Russell Pearl** for the design of the Expo t-shirt; **Don Wheeler** and **Nicole Marrello** for adding hand-drawn reptile and amphibian tattoos to the list of fund-raising activities; all the veterinarians who were on hand to offer advice; all the volunteers who collected money at the door; and most of all Ron acknowledged **Dottie Humbert**, "who did everything I should have done, and did it better." Ron also asked that those individuals who forgot to turn in their loaned Neodesha cages, please do so, no questions asked.

Merchandise **Joan Moore** had sold out of the "Hepetological" T-shirts with the missing "R," so she brought more this month. In addition to her usual onslaught of books, she offered a bright green "tractor-driver" hat complete with CHS logo for only \$5.00.

Assistant Librarian **Renee Gralewski** reported that Librarian **Jenny Picciola** was attending a three-month internship in Canada and announced that she would be assuming the library duties in her absence. Also, Renee, a film student, is compiling video footage of the CHS Expo and is looking for any additional footage. Perhaps PBS would be interested in a CHS documentary special someday.

Following the break, **David Beamer** raffled off some donated goods. The evening seemed to fly by and it was soon time for the guest speaker presentation. Iowa native and private herp collector, **Al Baldogo**, took us on an entertaining slide presentation of one of his many collecting trips to New Guinea, Indonesia and Java. Aerial photos of the islands were shown from the almost 30-hour plane trip. Scenic photos of waterfalls, grass huts and tin-roofed buildings were shown. "If you go there, be prepared to bring a mosquito net" says Al, who has become a regular on the islands and avoids the tourist areas. Al speaks some of the local languages and has befriended several natives. "I was very privileged to have the honor and opportunity to photograph these people," boasted Al. Like photographs out of *National Geographic*, natives from the Dani and Yani tribes were shown in their traditional dress, men wearing different sized "penis gourds" held up by fabric tied around the waist and married women wearing yarn skirts. Yes, Al even got up the nerve to be photographed in the exotic garb—penis gourd and all. He revealed that it was best to walk like them, eat like them, dress like them and act like them in order to ingratiate oneself with the tribes. It also



helped to bestow them with many American gifts of T-shirts and hats. He even brought them a CHS hat on one occasion. It was quite comical to see them posed with enormous smiles (and little else) in American clothing when they had no idea what company or product they were endorsing. It was interesting to learn that most of the natives are chain smokers and still use bows and arrows for hunting. Besides tourism, commerce on the islands is in the form of fish, potatoes and pig farming. Pigs are a treasured commodity and are only eaten on special occasions such as weddings. Some tribes even eat tree kangaroo and children were photographed eating stink bugs.

Al's focus on this particular trip was to photograph and collect Boelen's pythons. His barefoot native friends took him snake hunting through the thickest of rainforest vegetation at high altitudes. One slip of the foot could send him plunging 500 feet. Den sites, feces and shedded skins were used to track the camouflaged pythons.

In addition to never before seen photos of Boelen's pythons, Al showed us photos taken at an animal compound in Jakarta, the capital city of Indonesia, on the island of Java. These photos included red-tailed green rat snakes, varieties of skinks, bugs, butterflies, ants, beetles, treefrogs, house geckos, green tree pythons, water monitors, long-tailed lizards and blind snakes. It was alarming to see photos of one of the many "farms" where a smorgasbord of animals could be packed up in crates and shipped for a small price. Apparently,

animal exportation is big business here. Al did not go into any details on the regulations or shipping laws in this country. While Al prefers to catch and transport his own herps, here he could easily purchase any species found in the area with less effort than climbing the high altitudes and rough terrain amidst the rainforest. As a self-proclaimed herp collector, one would have to presume that Al's visits here were of the commercial pet trade nature. I only hope that he is able to captive breed them before he sells them, so that this form of exploitation can be diminished.

We stay in touch, so you stay in touch.

Respectfully yours,

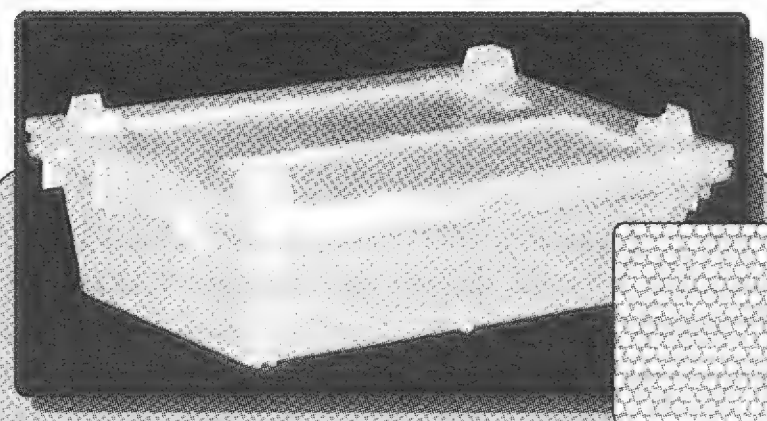
NEWT

Carl Gans from the University of Michigan, Department of Biology, has written and called attention to NEWTLIN in May's *Bulletin*, 30(5):101 regarding the "old" story that the pancake tortoise will inflate its lungs to wedge itself into a crevice. He notes that in Ireland and Gans, *Animal Behavior* 20(4):778-781, (1973) the authors indicated that "these turtles do not inflate their body, rather, they wedge themselves with their elongate forelimbs." Thank you for the information, Dr. Gans. I would love to hear more from my readers. Please mail any cartoons of your own or comments to NEWTLIN, c/o Debi Hatchett, 858 W. Armitage #354, Chicago IL 60614.

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Herpetology 1995

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editors assume full responsibility for any errors or misleading statements. JCM

LIZARDS THAT LOSE THEIR TAILS

R. M. Brown et al. [1995, J. Herpetology 29(1):98-105] examined the effects of caudal autotomy on terrestrial and arboreal locomotory performance using European wall lizards, *Podarcis muralis*, from an established population in Cincinnati, Ohio. Tail loss significantly increased running speed and distance traveled but markedly decreased arboreal locomotor performance (speed and distance). The effects of tail type (original, unbroken vs. regenerated, previously broken) seldom were significant before autotomy but became more markedly apparent following tail removal. Significant interactions between tail type and autotomy indicated that individuals possessing original or regenerated tails responded differently to tail loss. Whereas original tails were associated with superior performance before tail loss, individuals that had possessed regenerated tails before autotomy ran fastest and farthest and traversed an arboreal substrate fastest after their tails were removed. These results suggest that lizards that have been previously subjected to caudal autotomy are able to learn by experience how to compensate for the absence of a tail and, accordingly, traverse an arboreal substrate faster—even after the tail has regenerated and is subsequently autotomized again.

A NEW GENUS OF SPINY SKINK FROM QUEENSLAND RAINFOREST

J. A. Covacevich et al. [1993, Memoirs of the Queensland Museum 34(1):159-167] describe a new and very distinctive rainforest skink of the *Sphenomorphus* group. *Nangura spinosa*, a new species and genus superficially resembles *Gnypetoscincus queenslandiae* in being very spiny. *N. spinosa* is the first reptile species known to be confined to the remnant dry rainforest (= semi-evergreen vine thickets) of southern Queensland. It is known only from Nangur State Forest, which is now, like most semi-evergreen vine thickets in southeastern Queensland, in the care of the Queensland Forest Service.

A NEW SHORT-NECKED CHELID FROM QUEENSLAND

J. Cann and J. M. Legler [1994, Chelonian Conservation 1(2): 81-96] report a new genus and species of short-necked turtle from the Mary River of extreme southeastern Queensland, Australia, just north of Brisbane. The species has been known for 25 years, but only from specimens purchased in pet shops. The new species, *Elusor macrurus*, is probably the largest Australian shortneck and is diagnosed by a suite of characters, including a tail structure that is unique among chelids. The tail is laterally compressed and the distal caudal vertebrae bear haemal arches. The tail of adult males is larger than in any other known chelid, up to 70% of the carapace length. Its relationship to other chelids is not clear. The species is omnivorous, with molluscs forming an important part of the diet.

THE ABILITY OF A SLIDER TO FIND WATER

S. R. Yeomans [1995, Animal Behavior 49:977-987] examines the ability of the pond slider, *Trachemys scripta*, to find water. One hundred ten trapped turtles were moved beyond their home range to an unfamiliar terrestrial habitat, which had a single source of standing water nearby. After an acclimation period, turtles were released approximately 300 m from the water's edge and out of sight of the water. After one hour, a heading for each turtle was calculated. Under overcast conditions orientation was random. Under clear conditions, released turtles oriented nonrandomly and in the direction of the nearest water, suggesting that adult pond sliders have a water-finding ability. Turtles with the ability to move to another aquatic habitat in a direct, efficient manner should have a selective advantage because reduced exposure to predators, reduced water stress, and reduced time away from feeding would lower the cost of overland travel.

FRESHWATER SLIDER NESTS ON A MARINE BEACH

D. Moll [1994, Chelonian Conservation 1(2):107-116] found that freshwater sliders, *Trachemys scripta venusta*, enter the sea and nest nocturnally on Caribbean beaches from January to March near Tortuguero, Costa Rica. Nesting behavior and reproductive biology is similar to that of other slider populations except for larger egg size, clutch size and nest dimensions, which in turn are probably influenced by greater size of Tortuguero females. Nesting females reach the sea from adjacent lotic habitat by crossing an intervening peninsula, swimming into the sea via the Tortuguero Estuary, or walking onto the beach from an adjoining brackish lagoon. Males reside permanently in freshwater habitats where aquatic vegetation and basking sites are present. Females at sea drift-swim southward with the alongshore current before hauling up on the sea beach to nest. Nests are constructed on the upper portion of the berm under vegetation, and berm nests have sufficient vertical temperature variation to produce both male and female offspring. Spent females reenter the sea before returning to fresh water. Hatchlings emerge in May and probably do not enter the sea, but migrate to fresh water overland and through freshwater swamps.

A NEW SPECIES OF LEAF-TAILED GECKO FROM MADAGASCAR

R. A. Nussbaum and C. J. Raxworthy [1995, Copeia (1): 118-124] describe *Uroplatus malama* from the southern Anosy Mountains of southern Madagascar. The new species is based upon one specimen collected at 750 m, at night, sleeping on a branch 2 m above the ground in an undisturbed forest. This is the seventh species of the endemic Madagascan genus. The new species was collected in an unprotected montane rainforest, in a region where the forest is rapidly disappearing.

FRILLNECK LIZARDS STAY COOL IN THE DRY SEASON

K. A. Christian and G. S. Bedford [1995, *Ecology* 76(1): 124-132] report that the frillneck lizard, *Chlamydosaurus kingii*, is an arboreal lizard that is a conspicuous part of the reptile fauna of the wet-dry tropics of northern Australia during the wet season. During the dry season the lizard is secretive, and a previous study revealed that during the dry season individuals of this species remain perched in trees, showing a field metabolic rate of only 28% of wet season levels. Body temperature (T_b) of the lizards was measured by radiotelemetry throughout the day during the wet and dry seasons. The midday T_b during the wet season was high (grand mean = 36.7°C) and typical for heliothermic lizards, but the dry season midday T_b was significantly lower (grand mean = 32.8°C). Microclimate data and physical characteristics of the lizards were used in a biophysical model to calculate the operative temperature (T_e) of lizards in the shade, in the sun on a horizontal plane, and normal to the sun at each hour of the day for two seasons. The T_e values revealed the physical possibility for the lizards to achieve much higher T_b during the dry season than was measured. Thus, the lower T_b in the dry season represents a shift in preference rather than inability to attain a high T_b during the cooler dry season. Analysis of T_b and T_e revealed that although the lizards remained cooler in the dry season, they did not thermoregulate at the lowest possible T_b . An index of the extent to which the lizards exploit the available thermal environment indicates that they thermoregulate carefully in both seasons. The authors also examined captive animals and found that the seasonal shift in thermal preferences is an acclimation response or an endogenous seasonal cycle rather than a response to a simple thermal cue. Lower temperatures in the dry season result in conservation of energy and water during a season when these resources are relatively scarce. However, the fact that the lizards do not thermoregulate at the lowest possible body temperatures suggests that dry season T_b represents a compromise between conservation of resources and the ability to perform other functions such as escape predators or digest food.

ITALY'S WESTERN WHIP SNAKE

C. Ciofi and G. Chelazzi [1994, *Journal of Herpetology* 28(4):477-484] report on the movements of 11 specimens of *Coluber viridiflavus* over two years in the hills of Central Italy. Each snake homed to a primary shelter after each excursion, and the same shelter served as a hibernaculum. Excursions were classified as (1) simple loops lasting one day; (2) complex loops lasting two or more days and characterized by the use of secondary shelters; and (3) large loops lasting up to one month and having a total length as great as 3 km. The three kinds of excursions were related to distinct functions. Simple loops were performed almost exclusively to reach basking sites; complex loops were exploratory trips, probably related to foraging; exceptional excursions were related to reproductive activity. Males were more mobile than females and they had larger home ranges (males 0.17 ha, and females 0.05 ha) as regards the core area. The outer area was about the same size for both sexes.

RESISTANCE OF EELS TO SEA SNAKE VENOMS

H. Heatwole and N. S. Poran [1995, *Copeia* (1):136-147] examined the responses of four species of eels to the venom of two species of sea snakes, a dietary generalist (*Aipysurus laevis*) and an eel specialist (*Laticauda colubrina*). All eels tested were more resistant to the specialist venom than to that of the generalist. Two muraenid eels, both sympatric with both sea snakes and probably their prey, were found to be remarkably resistant to venom. By contrast, two species of garden eels, sympatric with the snakes but unlikely to be preyed upon by them, were sensitive, as was an allopatric eel (*Anguilla rostrata*). Because *Anguilla*, an eel with good gaseous exchange through the skin, is sensitive to venom, it is unlikely that cutaneous respiration is the sole mechanism of resistance.

AN ISLAND POPULATION OF ANGULATE TORTOISES

Y. M. Van Heezik et al. [1994, *Journal of Herpetology* 28(4):447-453] report that the angulate tortoise, *Chersina angulata*, population on Dassen Island, South Africa, was probably introduced at the beginning of this century. Population estimates for 1978 and 1989 were estimated at 31.2/ha and 34.2/ha, and sex ratios were 1:1.18 and 1:1.17 in favor of males. In both years the population showed a preponderance of adults, but mean and maximum adult body size was greater in 1989. Predation and reduced competition may be responsible for an increase in body size. Breeding penguins and rabbits influence the island's vegetation and may determine tortoise population size.

A SALAMANDER THAT TUCKS AND ROLLS

M. García-París and S. M. Deban [1995, *J. Herpetology* 29(1): 149-151] describe coiling and rolling downhill as a novel antipredator behavior in the plethodontid salamander *Hydromantes platycephalus*. The salamander responded to being tapped by curving the body laterally until the head was positioned over the pelvis, curving the tail laterally along the venter and tucking the limbs close to the body. Additionally the authors tested 15 other species of plethodontids for this behavior, and found that none of them exhibited similar behavior. *H. platycephalus* inhabits volcanic and granitic substrates at high elevations in the Sierra Nevadas, while its congeners are mainly found on limestone at low elevations.

SNAPPER PREYS ON DUCK EGGS

T. J. Thorp [1994, *Wilson Bulletin* 106:416] notes that snapping turtles, *Chelydra serpentina*, have been reported to feed on ducklings, but suggests that this is the first report of the chelonian eating eggs. The observations were made in western Henrico County, Virginia. The turtle emerged from the water onto a small island where domestic ducks and muscovy ducks were nesting. Most of the birds fled their nests as the turtle approached, but one domestic duck stayed near her nest. The turtle approached this nest, removed a single egg and then returned to the water. The turtle repeated this procedure four times, until it was too dark to make observations. The 30-40 cm turtle carried the eggs in its mouth.

Unofficial Minutes of the CHS Board Meeting, June 9, 1995

The meeting was called to order at 8:20 P.M. Board members John Driscoll, Art Nohlberg, Mike Ross, Jack Schoenfelder and Steve Vick were absent.

Officers' Reports:

The Minutes of the May board meeting were read and approved. The Treasurer's Report was read and accepted. The Expo was a big success. Forty new CHS members signed up at the Expo.

Committee Reports:

Legislative: Chris Lechowicz is preparing an article to be published in the *Bulletin*.

Expo: Ron Humbert thanks everyone who participated in the 1995 Expo. The number of animal exhibitors increased from 34 in 1994 to 55 this year. The Expo was a big success. The only downside was the theft of four Neodesha cages. The Expo wrap-up meeting will be held at the home of Ron and Dottie Humbert, July 28 at 7:30 P.M.

Workshops: Nicole Marrello reported that upcoming workshops will be held later this summer. Topics under consideration are Cage and Filtration System Design, and Egg Incubation.

Turtle Group: Turtle Group meetings are canceled for the summer. A notice will appear in the *Bulletin* when meetings are scheduled to resume.

Raffle: Jill Horwich will expand our list of potential raffle donors by adding names of any new vendors advertising in *Reptiles* magazine.

Director of Sales:

Joan Moore reports that the CHS bookstore is still in the black. The Bookstore was very successful at this year's Expo.

Old Business:

Grants: Grants have been awarded. A list of recipients will appear in the *Bulletin*.

Trailer: Dottie Humbert reported that there are three sizes of trailers made by Timberwolf. They are: 4' x 6' @ \$1200 (or with heavy axle @ \$1300); 4' x 8' @ \$1300 (or with heavy axle @ \$1450) and 5' x 8' @ \$1600 (includes heavy axle). Ron and Dottie Humbert will get exact interior dimensions.

Bulletin Board: Gary Fogel suggested that we locate the CHS bulletin board for use at general meetings. The Society receives a lot of mail that may be of interest to the membership. Anyone knowing the location of the bulletin board, please contact Gary Fogel.

Missing Sign: The CHS sign that fits on top of our modular display cages is missing. If you have it, please return it at a general meeting, or contact a board member.

New Business:

Picnic: Nicole Marrello will organize this year's CHS picnic.

HerpQuest: HerpQuest International of Vista, California, is compiling information from U.S. regional herpetological societies. The CHS will respond to its questionnaire.

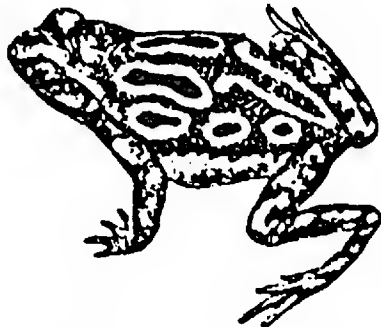
Mailing List: A request has been made for our mailing list, printed on pressure sensitive labels, for use in a survey to be published on U.S. trade in reptiles and amphibians. Mike Dloogatch moved and Jill Horwich seconded that the CHS sell the mailing list for this purpose at the going rate of \$0.10 per name. Nicole Marello, Chris Lechowicz and Mike Dloogatch voted in favor; Brian Jones, Gary Fogel and Jill Horwich voted against; Marcia Rybak broke the tie by voting against the motion.

Round Table:

Future board meetings scheduled to be held at the Chicago Academy of Sciences will be moved to the CAS office building, located at 2060 N. Clark Street.

The meeting adjourned at 9:50 P.M.

Respectfully submitted by the Recording Secretary, Jill Horwich



TEXAS INTERNATIONAL REPTILE TRADE SHOW
(captive bred reptiles)
July 29 -30, 1995
Saturday 9AM-5PM
Sunday 9AM-5PM
HOWARD JOHNSON HOTEL
120 W. AIRPORT FRWY (183)
IRVING, TEXAS
ADMISSION: \$5.00 (ADULTS) \$2.00 (6-12) FREE (5 AND UNDER)
For More Information Contact : Brian or Billie (214)256-3098

Advertisements

Accrue herpetological knowledge: Connect with peers worldwide. The Herpetology Online Network is active 24 hours/day. Any computer modem can access Herp-Net via (215) 464-3562 (300–1200 baud 8-N-1) or (215) 698-1905 (9600+ V32, V42bis.) Submit news via FAX: (215) 464-3561 any time.

Attention: the Varanid Information eXchange is a society of herpetoculturists sharing an interest in MONITOR LIZARDS. Members receive the bimonthly newsletter, *VaraNews*. Annual membership is: U.S., \$10; foreign, \$12 surface/\$15 air. For a free copy, send a legal-size SASE to: Varanix, 8726D S. Sepulveda Boulevard, #243, Los Angeles CA 90045.

Fauna classifieds: monthly classified publication for reptiles, amphibians, food items & supplies, literature and more. Excellent information source, worldwide circulation. Subscription \$14/year. Free sample & info. Write: FAUNA, 2379 Maggio Circle Unit C, Lodi CA 95240.

For sale: **HIGH QUALITY FEEDER ANIMALS PRODUCED FROM THE BEST LAB DIETS AVAILABLE.** Tenth year of production and supply of frozen feeder animals. All feeders can be removed one at a time from the bag; they are not frozen together. All orders **will arrive frozen**. Now offering *seven* sizes of mice: small newborn pinks, medium size pinks, large fuzzy pinks, extra large fuzzies/small hoppers, juvenile mice, young adults, and large adults. Also available are pinkie rats, baby chicks, and quail chicks. Orders sent special delivery, postage extra. **Free pricelist.** Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358, after 6 P.M. Central Time on weekdays, all day Saturday and Sunday.

For sale: *THE GOURMET RODENT*: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, 6115 SW 137th Avenue, Archer FL 32618, (904) 495-9024.

For sale: top quality mice, rats and Chinese dwarf hamsters. All sizes at competitive prices. Gary W. Allison, 919 Wyandotte Street, Bethlehem PA 18015, (215) 974-8975.

For sale: murine-pathogen-free rats and mice available in all sizes, live or frozen: pinkies, fuzzies, crawlers, small, medium and large. Frozen crawler mice in lots of 2000, \$.17 each. Also available, full grown hairless mice. FOB shipping point. Master Card accepted. Call (518) 537-2000 between 8:00 A.M. and 5:00 P.M. or write SAS Corporation, 273 Hover Avenue, Germantown NY 12526 for prices and additional information.

For sale: high quality feeder mice. Shipped UPS Next Day Air. All mice are properly processed to insure a quality product. Fourth year of production and supply of frozen feeder mice. Prices: pinks, \$25/100; fuzzies, \$30/100; weanlings, \$35/100. Also available are 4 oz. + rats, \$100/100. Quantity discounts available. The Mouse Factory, P.O. Box 85, Alpine TX 79831, (915) 837-7100, Ray Queen.

For sale: rodents and reptiles, Dallas–Ft. Worth Metroplex. J.R.’s Cowtown Critters, 1002 Harrison Avenue, Arlington TX 76011, (817) 460-RATS.

For sale: In stock, Flex-watt and Ultra-therm heating products. **Frozen rodents** always available. Mice: pinks–crawlers, 3/\$1; weanlings, 40¢; subadult, 50¢; adults, 65¢; large adults, 75¢. Rats: small, 85¢–\$1; medium, \$1.25–2.00; large, \$2.25–2.75; jumbo, 3/\$10. Call on quantity discounts [note: discount on orders picked up at CHS meetings]. Live rodents available at higher prices. **Available now:** newsletter/catalog—many unique/hard-to-find herp husbandry items. It’s also baby snake season! Send business-size SASE for catalog, or call. Scott J. Michaels, D.V.M., Serpent City, P.O. Box 657, Island Lake IL 60042, (815) 363-0290.

For sale: Feeder frogs and toads. *Hyla* sp., *Acris* sp., *Pseudacris* sp., small *Rana* sp., etc., twenty for \$20 postpaid. *Bufo* sp. available at same price. Indicate size preference if necessary. Send money order to: Terry Dillon, 30012 Hubert Jenkins Road, Bogalusa LA 70427-6952.

For sale: GREAT FEEDER INSECTS! King mealworms at great prices (wholesale/retail). Quantity discounts. *Place your order today!* North County Exotics, P.O. Box 4856, Salinas CA 93912-4856, (408) 663-0566, please leave message.

For sale: turtle and tortoise chow, excellent food—1 lb, \$5; 3 lbs, \$10; 5 lbs, \$15 (postage paid). Send cash, check or money order to Herp’s Delight, Dept. C, 20 Ablett Avenue, Whitesboro NY 13492.

For sale: commercial turtle pellets (extruded dry floating type, 40–56% protein). Fed to thousands of turtles grown on commercial farms in the South for meat and pets. A complete, balanced diet for maximum growth, will not cause shell deformities, \$20 for 10 pounds postpaid. Send money order to: Terry Dillon, 30012 Hubert Jenkins Road, Bogalusa LA 70427-6952.

For sale: reptile cage disinfectant and deodorant. Kills many types of infectious disease detrimental to herps. \$3.91 for 2 oz (makes 1 gallon). Wholesale and quantity prices available. Make checks payable to Bengal Pets, Inc., 1088 Chapman Road, Jesup GA 31545, (912) 530-6384.

For sale: Tired of getting bitten while collecting, feeding or maneuvering animals? Try my Whitney tongs—10% discount to herp society members—2’, \$65 each; 2½’, \$66 each; 3’, \$67 each; 3½’, \$68 each; 4’, \$69 each, 5’, \$85 each; 6’, \$90 each. Will ship U.P.S. extra. Send money order or cashier’s check to Don Lunsford, 5661 Walkerton Drive, Cincinnati OH 45238.

For sale: herp books. *Forty Queensland Lizards* by Dale, 1973, 64 pp., many good drawings, range maps, natural history of selected species including three species of *Tiliqua*, \$17.50; *Tortoises of Australia* by Cann, 1976, 79 pp. + 92 color plates including habitat shots, \$30; *Snakes of Australia* by Gow, 1983, 118 pp. + 48 color plates, \$27. Books softbound in excellent condition. Prices postpaid. William R. Turner, 7395 S. Downing Circle W., Littleton CO 80122, (303) 795-5128.

For sale: *Smuggled — The Underground Trade in Australia’s Wildlife* (149 pp.) by Raymond Hoser, the controversial best-seller that was banned by corrupt Australian wildlife officials; and *The Hoser Files* (322 pp.) Raymond Hoser’s latest book, detailing corruption in Australia’s bureaucracy. This book has created havoc even before publication. Send international money orders for \$20 per book (post free)(signed by author) to P.O. Box 599, Doncaster, Victoria 3108, Australia, or phone 61 18 588699 for details.

For sale: *REPTILES MAGAZINE INDEX*. Locate every reference in *Reptiles Magazine* from the beginning. Every species mentioned, where the photos are. English and Latin names. Updated monthly. Single issue \$5, full-year subscription (4 issues, quarterly) \$18. Send check or money order to Reptile Index, 7354 Cardigan Circle, Atlanta GA 30328, (404) 396-4414.

For sale: herpetological periodicals. *Reptilian* magazine, 12 issues, Volume 1, No. 1, through Volume 2, No. 3 (consecutive run minus Volume 1, No. 4), \$120; *Reptiles* magazine, premier issue, October 1993, Volume 1, No. 1, \$60, February 1994, Volume 1, No. 3, \$30; *Captive Breeding* magazine, first 8 issues, Volume 1, No. 1, through Volume 2, No. 4, \$100; *Dactylus*, journal of the International Gecko Society, complete run of all 8 issues, \$100. Many single back issues of *Vivarium*, and *Reptile and Amphibian Magazine*. Call or fax for prices of individual issues. Include \$4 shipping. Ohio residents add 5.75% sales tax. The Herp House, 1750 Haines Road, Orwell OH 44076, (216) 685-4615 tel, (216) 685-4572 fax.

For sale: set of five posters first published by Army Air Forces Tactical Center for easy identification and habits of venomous snakes of the world, \$9 postpaid; *Field Guide to the Snakes of South Vietnam* by Simon Campden Main, \$10 postpaid; *Batrachia of North America* by E. D. Cope, \$16 postpaid; *Laboratory Anatomy of the Iguana* by J. C. Oldham and H. M. Smith, \$17 postpaid; *Time of the Turtle* by J. Rudloe, \$5 postpaid; *Atlas of Amphibians and Reptiles of New Zealand* by C. P. Pickard and D. R. Towns, \$18 postpaid. Catalog of over 4000 herpetological titles sent free upon request. Herpetological Search Service & Exchange, 117 E. Santa Barbara Road, Lindenhurst NY 11757, (516) 957-3624.

Advertisements (cont'd)

For sale: large selection of captive born reptiles and amphibians, books and supplies. Send S.A.S. business-size envelope for complimentary price list or \$5 for a 1-year subscription (bi-monthly), to Twin Cities Reptiles, 540 Winnetka Avenue North, Golden Valley MN 55427, (612) 593-0298.

For sale: reptile cages, sliding glass doors, 3-foot cages, \$40 each, 5½-foot cages, \$125 each; hatchling leopard tortoise, \$100; 24" male and female mid-Baja rosy boas, *Lichanura trivirgata myriolepis*, \$180/pair. Marc, (708) 597-6172 — (708) 361-5835 from July 17 to August 8.

For sale: female rhinoceros iguana, c.b. '93, \$795; one male and one female adult Cuban rock iguanas, \$1750/pair; *Uromastix acanthinurus*, \$390; *U. aegyptius*, \$75; Baja blue rock lizard, c.b. '93, \$85. Randy, (817) 613-1242 (6 – 9 P.M. Central Time). [TX]

For sale: large male Sudan plated lizard, dog tame, \$20. Mike, (708) 717-9955.

For sale: c.b. frilled dragons (*Chlamydosaurus kingi*), yearlings 16–20", \$700 each or two for \$1250. Call Dan or Phil at New York Reptilia, Inc., (718) 461-1371 (closed Mondays). Limited numbers of the following animals available soon: shingleback skinks (*Tiliqua rugosus*), blotched blue-tongue skinks (*T. scincoides nigrolutea*), New Caledonia crested geckos (*Rhacodactylus ciliatus*) **first and only ones available in the U.S.**, New Caledonia giant geckos (*R. leachianus* ssp., recently designated *R. henkeli*), diamond pythons (*Morelia s. spilota*), eastern carpet pythons (*M. s. macropsila*), green tree pythons (*M. viridis*), and New Guinea jungle carpet pythons (*M. s. variegata*). Serious inquiries only.

For sale: c.b. Australian velvet geckos, *Oedura monilis*, hatched 1995, \$80 each or will trade for *O. marmorata*. Gary Fogel, (312) 935-6938.

For sale: c.b. geckos—velvet geckos, *Oedura castelnaui*, \$75 each; *O. monilis*, high yellow phase, \$95 each; giant frog-eyed geckos, *Teratoscincus keyserlingi*, \$95 each; one male and one female frog-eyed geckos, *Teratoscincus scincus*, proven breeders, \$100/pair; New Caledonian geckos, *Rhacodactylus auriculatus*, \$195 each; banded geckos, *Coleonyx mitratus*, \$35 each. Philip A. Tremper, Jr., P.O. Box 264, Clintonville WI 54929, (715) 823-5873.

For sale: **baby leopard geckos**, from hi-yellow, zoo-born parents, well started on nutrient loaded, vitamin/calcium supplemented ¼" crickets and small molted mealworms, *great pets*, \$25 each (detailed care sheet included). Rob Carmichael, (708) 615-4388 leave message on voice mail.

For sale: giant 5' green iguana, complete with 6' habitat & multiplatform tree, very tame, paper trained, great unique pet, best offer. Mike, (708) 940-0333.

For sale: What are vittikins? Vittikins are bearded dragon (*Pogona vitticeps*) × Rankin's dragon (*P. brevis*) hybrids. All the personality, charm and hardiness of bearded dragons at half the size. Just \$75 each. Also c.b. water dragons, \$20; c.b. leopard geckos, \$20; c.b. veiled chameleons (*Chameleo calyptratus*), \$55 each. Marcia Rybak, (708) 735-8205.

For sale: rhinoceros iguanas; Cuban iguanas; green iguanas; *Geochelone sulcata*; *G. elephantopus* (Florida sales only). D. J. or Sam, (305) 680-8492. [FL]

For sale: five male and five female cape gopher snakes, \$200/pair; adult female cape gopher snake, proven breeder, \$250; male Sonoran gopher snake, hetero for albino, proven breeder, \$65; male albino San Diego gopher snake, proven breeder, \$100. All are c.b. Craig Roehm, (814) 898-2569. [PA]

For sale: expected starting late summer. Hetero anerythristic Honduran milksnakes, \$400/pair; Langtry, Loma Alta and Juno Road *alterna*, \$75–125; Stuart's milksnakes, \$125; Val Verde County *annulata*, \$75. Quantity prices available on Mexican and Sinaloan milks and *alterna*. Call for details. Send SASE for free price list. Dan Johnson, P.O. Box 440893, Houston TX 77244, (713) 589-1874.

For sale: c.b. hatchling snakes. Mexican milks (*annulata*), \$55; Utah milks (*Taylori*), \$80; Arizona mountain kings (*pyromelana*), \$100; Huachuca mountain kings (*Lampropeltis pyromelana woodini*), \$100; Yunan rats (*Elaphe taeniura yunanensis*), \$75. Henry Cohen, 24 St. Johns Place, Buffalo NY 14201, (716) 881-6724.

For sale: for Chicago area pickup only—1993 c.b. anerythristic (no red) corn snakes, both light and dark phases, all feeding like gangbusters on dead fuzzy mice and chubby rats, \$30 each; one 1993 c.b. black and yellow banded female California kingsnake, finally eating dead fuzzy mice like a champ, \$40; 23" savannah monitor, feeding well on small dead rodents and beef heart, \$50. Call Janice 10 A.M. – 10 P.M., (708) 484-7307 and leave a message if I can't pick up. [Note: this ad ran for the past two months with an incorrect phone number.]

For sale: 1995 hatchlings. Trans-Pecos rat snakes, \$35 each; Baird's rat snakes, \$25 each; Mexican hognose snakes, \$35 each [permit needed in IL]; western hognose snakes, \$25 each [permit needed in IL]; prairie kings, \$25 each; California kings, \$25 each; gray-banded kingsnakes, various localities, \$100 and up; *ruthveni*, \$75 each; Durango mountain kings, \$100 each; Mexican milksnakes, Pueblans, \$50 each; red milks, \$35 each; Mexican black kings, \$40 each; prairie-speckled crosses, \$50 each; Arizona mountain kings, \$125 each. Rosy boas: *trivirgata trivirgata*, \$50 each; *t. roseofusca*, \$75 each; *t. saslowi*, \$100 each. Steve Mitchener, 2928 Kerry Lane, Oklahoma City OK 73120, (405) 748-6566 after 6 P.M. Central Time.

For sale: male *Morelia viridis*, c.b. '92, bright green, tame and flawless, feeding on medium rats, \$1000; c.b. '95 *Antaresia maculosa*, \$125 each, two or more pair, \$225/pair; male c.b. '94 *Antaresia childreni* (Mark Bell stock), eating rat pups, \$150; male c.b. '93 diamond × carpet python, average coloration, great feeder and breedable next year, \$450; male c.b. '94 carpet python, fater to this animal is black and white, super feeder on small rats, \$250. Gary, (908) 321-0859 after 6 P.M. Eastern Time. [NJ]

For sale: 6½' female boa constrictor, proven breeder, \$200; c.b. '92 male Arizona mountain kingsnake, \$125. Jack Phillips, (708) 724-4552.

For sale: 1995 captive bred boids. Hogg Island boas from exceptional adults, \$325; Brazilian rainbow boas from iridescent orange adults, \$225; Colombian rainbow boas from iridescent, high-contrast adults, \$75. Unrelated pairs available. Can deliver to Chicago/Milwaukee area. Mark Wendling, (319) 857-4787. [IA]

For sale: 1995 c.b./c.h. Argentine boas, \$250 each; Sonoran Desert (Mexican) boas, \$100 each; Sumatran blood pythons (from red parents), \$300 each; Everglades rat snakes, \$25 each. Also, one male 7–8' Peruvian redtail boa, 25 lbs, tame, \$500; one normal male Querétaro king, c.h. '93, \$100. Marcia, (520) 744-4211 leave message. [AZ]

For sale: **"Ultra-Golden"** Colombian boa constrictors. To enhance this strain I have outbred Steve Hammond's (Exceptional Exotics) "Golden-Phase" bloodline against a totally unrelated and EXTREMELY NICE golden-salmon individual. The resulting offspring are some of the most attractive Colombians I have ever seen, plus they are not inbred! \$125–175 each. **Northern pine snakes** from a diverse breeding group consisting of six unrelated bloodlines. I can provide amelanistic, heterozygous and "high-contrast" normals, \$45–95 each. Steven E. Snow, (815) 624-8204. [Rockton IL]

For sale: Kenyan sand boas, c.b.&b. 6/15/95, brown and orange, from large adults, \$60 each, \$100/pair. Scott, (708) 870-8628.

For sale: c.b. '95 Kenyan sand boas, anerythristic (black & white), \$300, potential hetero for anerythristic, \$50; 4' Dumeril's monitor, very healthy, long-term captive. Steve, (206) 487-6869. [WA]

For sale: expected '95—deposits accepted. Pythons—blackheads, womas, green trees, diamonds, jungle carpets, rings, bloods (red and black) and Children's. Boas—emeralds, Hog Islands, Madagascan tree (*Sanzinia*), Bolivian redtails, Argentines, Brazilian rainbows, Dumeril's and sand boas. Tortoises—Aldabras (3"–24"), Hermann's, marginateds, redfoots, leopards and others. For price list send a one-time fee of \$3, which includes a '95 list (and *all* future lists) and color photos. Dick Goergen, P.O. Box 225, Alden NY 14001, (716) 681-4518.

Advertisements (cont'd)

For sale: one male and one female adult desert sand boas, *Eryx miliaris*, \$125; one male and two female adult Tatar sand boas, *E. tataricus vittatus*, (male has old spinal injury), \$135; juvenile ('94) Dumeril's boas, \$300; juvenile ('94) olive pythons, *Morelia o. olivaceus*, \$1000; 10' adult male olive python, \$1200; two male and two female Moluccan amethystine pythons, 8–10', \$600–1000/pair. All adult snakes are long-term captives. Expecting in '95: *Eryx conicus*, *E. j. jaculus*, *E. miliaris*, *E. tataricus*, Dumeril's boas, olive pythons (*olivaceus*), rosy boas (*saslowi*). David Sorensen, 4100 N. 78th Street, Milwaukee WI 53222, (414) 463-6164.

For sale: jungle carpet python (*Morelia spilota cheynei* × *variegata*), 75% jungle carpet, yellow with brown blotches highlighted in black, c.b.'95, \$250; one male eastern Stimson's python (*Antaresia stimsoni orientalis*), c.b. '94, \$750; super leopard gecko (*Eublepharis macularius*) can get 11 inches long, c.b. '95, \$100. Steve Bostwick, 901 4th Street SW, Altoona IA 50009, (515) 967-5716.

For sale: 1995 babies. Spotted pythons, Amazon tree boas, rosy boas, Kenyan sand boas (orange, hetero albinos, anerythristics), bright orange apricot Pueblans, *thayeri*, *greeri*, albino/hetero *ruthveni*, western hognose [permit needed in IL], Sinaloans, many others. No deposits required, full refund if not satisfied. Free shipping on orders over \$1500. Call (619) 287-3937.

For sale: **Pythons! Pythons!** Vibrant c.b.&b. Barker (VPI) strain: spotted python (*Antaresia maculosa*) yearlings, \$190; Irian Jaya carpet python (*Morelia spilota* ssp.) yearlings, \$525; Macklot's python (*Liasis mackloti mackloti*), c.b. '95, \$125; bar-neck scrub python (*Morelia amethystina*) yearlings, already 4', \$290; Borneo short-tailed python (*Python curtus breitensteini*), \$150; blood python (*P. c. brongersmai*), \$300; Sumatran short-tailed python (*P. c. curtus*), \$375; Guyana redtail boas (*Boa constrictor constrictor*), beautiful, \$275. Call Rob Carmichael, (708) 615-4388 leave message on voice mail, or write P.O. Box 38, Vernon Hills IL 60061.

For sale: **Brazilian rainbow boas** expected from beautiful orange parents, \$250. Send stamp for info/photo. Scott Schuett, 1820 Bigelow, Toledo OH 43613.

For sale: Attention snake enthusiasts! **Plains Reptile** is now taking orders for 1995 hatchlings. Quality snakes at attractive prices—reserve yours today. Send stamp for free price list. Plains Reptile, P.O. Box 5818, Fargo ND 58105.

For sale or trade: two Central American ornate wood turtles, c.h. '94; three North American wood turtles, c.h. '94; Barbour's map turtles; Reeves turtles; hatchling yellowbelly sliders and Florida redbelly turtles. Will trade for tortoises. Ted, (519) 243-3235. [Ontario, Canada]

Free to a good home: 1½-year-old male green iguana, cage included. Tina, (708) 498-1470.

Pet-sitting service: Complete in-home pet and plant care, specializing in reptiles and other unique pets. Dogs and cats welcome with open arms, midday dog walking. Experienced and dependable service by devoted animal lovers, serving Chicago and suburbs, reasonable prices, fully insured and bonded. Ask about our habitat consultation and custom-made cages. Exotics & More, (312) 728-5457 or page us at (708) 750-3688.

Software: **TRACS™**—Total Reptile and Amphibian Control System. The most complete database and reporting solution for automating your breeding records. Perfect for hobbyists, commercial breeders and institutions. Only \$129. IBM PCs and compatibles. For more information or ordering contact Marcia Rybak at Leapin' Lizards, 736 N. Western Avenue, #315, Lake Forest IL 60045, (708) 735-8205 phone or (708) 735-8206 fax.

Tours: Five-day South Carolina herp and fossil tours, April–November 1995. Mini expeditions in search of 30-million-year-old turtles and crocodilians; living reptile hunts (vipers, king and rat snakes, turtles, anoles, broadhead and five-lined skinks, treefrogs and other amphibians), exotic reptile shopping and camping in a black water swamp forest. Finest Charleston hotels beginning and end of each tour. Twelve people per tour. Family plans available. \$489. For reservations call Steve Faust, (800) 894-TOUR.

Tours: Custom-designed tours to Costa Rica, Panama, Belize and Guatemala. Expeditions to fit the specialized needs of herpers, photographers, educators, writers, professionals in search of data, and travelers just interested in visiting these countries (with or without their families). From \$649. Steve Faust, (800) 894-TOUR.

Tours: **Road-riding in Costa Rica!** Treat yourself to the trip of a lifetime! Learn about tropical herps, find them, photograph them, see where they live. **Greentracks, Inc.**, offers the best herpetological tours led by internationally acclaimed herpetologists and herpetoculturists. See the Amazon, visit cloud forests, experience the world's greatest rainforest, super sunsets and good company. Call (800) 9-MONKEY.

Tours: Limited bookings available for guided tours of herpetological collection sites in Nevada. Call or fax (702) 471-0240 for reservations. For a brochure send SASE to: CRC, P.O. Box 0731, Las Vegas NV 89125-0731.

Wanted: female anerythristic corn snake. Mike, (708) 717-9955.

Wanted: redfoot tortoises—“cherry heads” and regulars. Ted, (519) 243-3235. [Ontario, Canada]

Wanted: *Uromastix acanthinurus*. (817) 613-1242 (6 – 9 P.M. Central Time). [TX]

Wanted: a pair of hi-yellow leopard geckos, juveniles or subadults, please call or write with availability and prices. Rob Carmichael, P.O. Box 38, Vernon Hills IL 60061, (708) 615-4388 leave message on voice mail.

Wanted: sand boas (*Eryx elegans*, *E. jayakari*, banded *E. johnei*, *E. muelleri* and *E. somalicus*). David Sorensen, 4100 N. 78th Street, Milwaukee WI 53222, (414) 463-6164.

Wanted: brilliant yellow *Lampropeltis getula “brooksi”*, *L. g. sticticeps*, 85% yellow or more banana *L. g. californiae*, 60% white or more desert phase *L. g. californiae*, high yellow examples of *L. g. holbrooki*, red/orange and black *L. g. goini*, and black & white specimens of *L. g. goini* such as the animal pictured on plate 590 in the Audubon Society field guide. Will pay cash or trade my quality *Lampropeltis getula* ssp. hatchlings for the animals I want. Kirk Setser, 414 Wickham Road, Manhattan KS 66502, (913) 537-9449.

Wanted: styrofoam boxes, any size or shape so long as they're not flimsy, preferably with cardboard liners, willing to pay from \$2 to \$5. Bring to CHS meetings. Scott J. Michaels, D.V.M., Serpent City, (815) 363-0290.

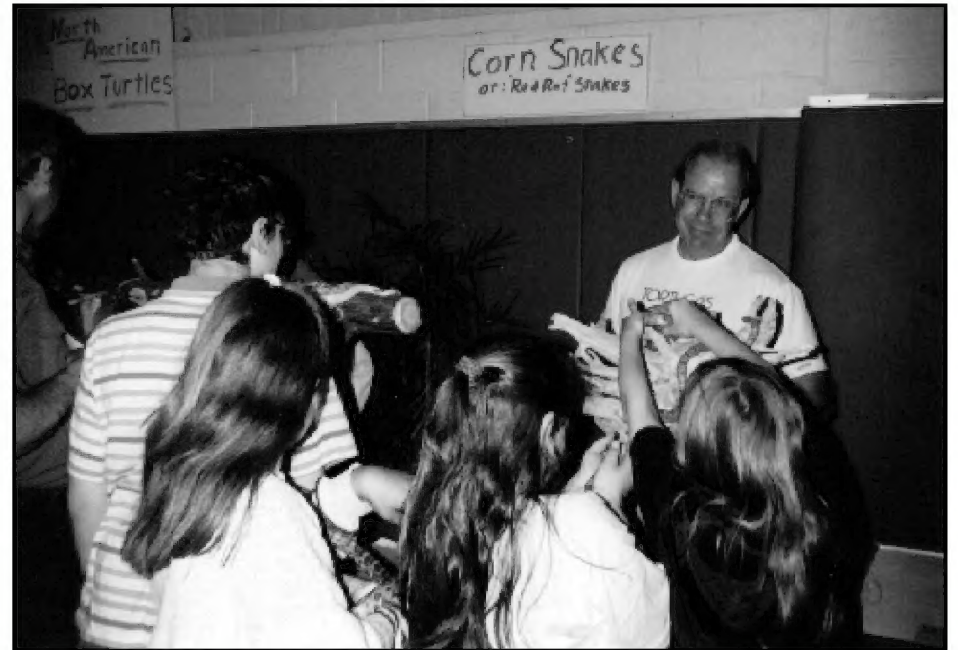
Line ads in this publication are run free for CHS members — \$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (312) 588-0728 evening telephone or (312) 782-2868 fax.

Photo Essay: 1995 CHS Expo

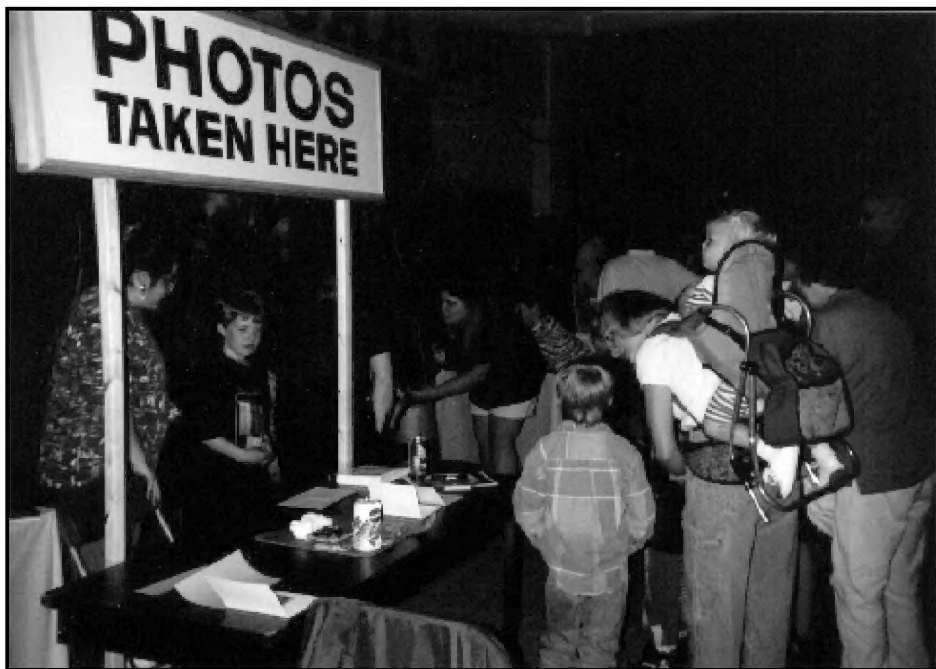
The scenes below are from the second CHS Live Amphibian and Reptile Expo, held May 27–28 at Triton College in River Grove, Illinois.



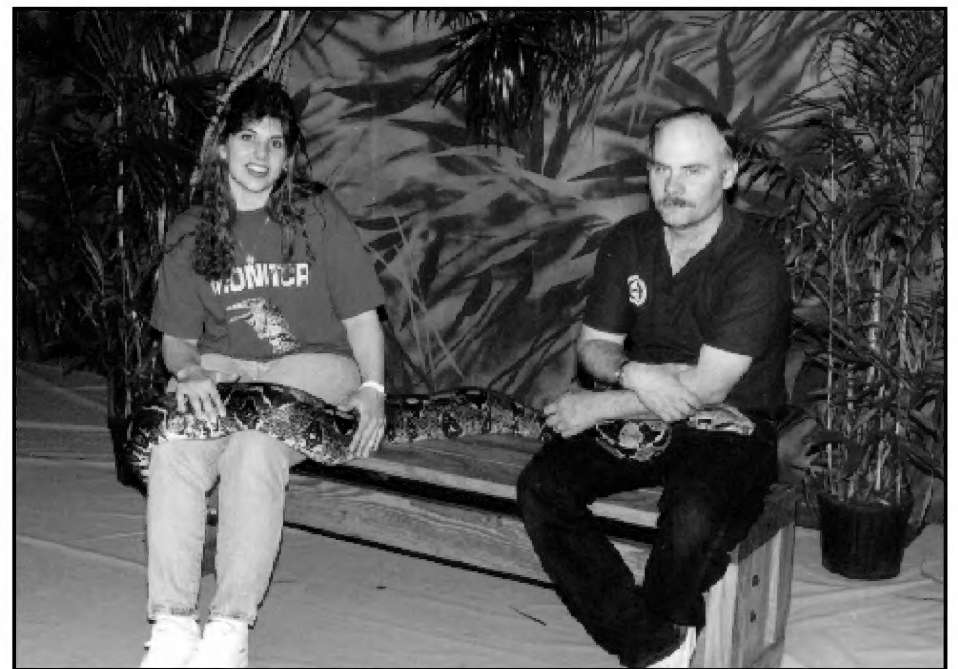
The camera's view covers less than half of the total area. Photograph by Michael W. Scott.



Ron Humbert seldom had a moment to himself at his popular box turtle and corn snake displays. Photograph by Marcia Rybak.



The photo booth was a big hit. Photograph by Marcia Rybak.



Jeannie Cogan, Bob Hilger and Bob's boa take a break from their arduous duties at the photo booth. Photograph by Michael W. Scott.

1995 MIDWEST HERPETOLOGICAL CONFERENCE

Sponsored by the
Chicago Herpetological Society
October 20–22, 1995

Clarion Hotel O'Hare • 6810 N. Mannheim Road • Rosemont, Illinois
(708) 297-8464

The Clarion has reserved a block of rooms at reduced rates for Midwest Herpetological Conference registrants. Room rates per night are: single person, \$65; two or more persons, \$75. You should make it clear that you are attending the conference and want these special rates.

- ◆ **Friday night Breeders' Exposition (sales of captive-bred animals only)**
- ◆ **Friday night Reception**
- ◆ **Saturday night Banquet and Auction**
- ◆ **Saturday speakers: Walter Auffenberg; Sandra Barnett; Stephen Barten, DVM; Michael Corn; Carl Ernst; Gary Fogel; Neil Ford; and more**

For registration information write Chicago Herpetological Society, Midwest Conference, 2060 N. Clark Street, Chicago IL 60614, or phone (708) 209-1426.

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, July 26, at the Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, in Chicago. As of this writing the program for this meeting is uncertain. However, Program Chair Chris Lechowicz is on the job and will undoubtedly have a topnotch speaker for us by the time the meeting comes around.

The speaker at the August meeting will be John McGrath of Columbia, Missouri. John will speak on the care and breeding in captivity of the European fire salamander, *Salamandra salamandra*.

We are required to use the entrance on the west side of the museum. We have permission to use the staff parking lot to the west of the museum. Entrance to this lot is from McFetridge Drive, the wide street just to the south, between the museum and Soldier Field. There is also free parking available in the lot to the north of the museum. The #146 CTA bus goes directly to the museum. Unfortunately, it does not operate after 9:00 P.M. However, after the program anyone needing a ride to a CTA stop will have no trouble finding one—just ask any board member.

Turtle Club

Due to scheduling problems, meetings of the Chicago Turtle Club have been suspended for July and August. Turtle Club members will be sent notices when the meetings resume and an announcement will appear in the *Bulletin*.

SHEDD AQUARIUM RESEARCH TRIP

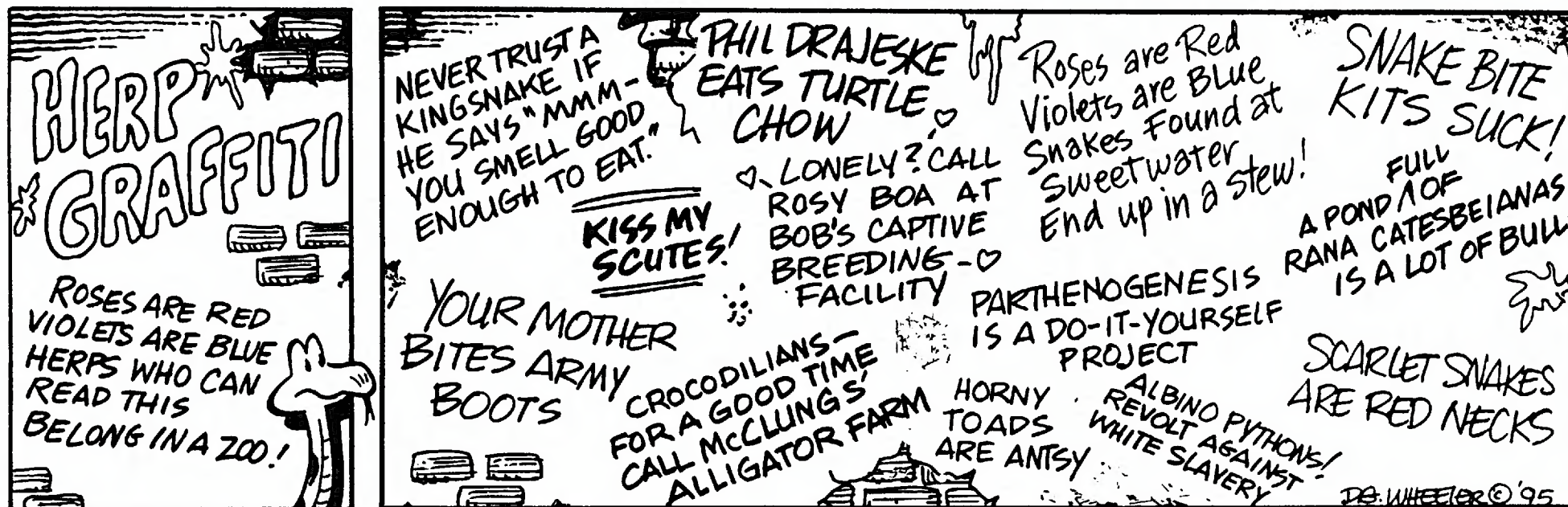
Chuck Knapp, the Shedd Aquarium's resident iguana researcher will be leading an expedition to study iguanas in the Bahamas this fall. The week-long cruise, October 21–29, aboard the Aquarium's research vessel, the R/V *Coral Reef II*, takes participants to the Southern Exumas island chain to conduct vital field studies on several species of endangered West Indian rock iguanas in the genus *Cyclura*. The adventure is limited to nine participants. The cost is \$1,425 from George Town, Great Exuma. For an itinerary and registration form, contact Amy Ihde at (312) 939-2426, ext. 3311.

DONATIONS TO THE JUNE 28 RAFFLE

The following is a listing of those individuals and businesses who generously donated items for our monthly raffle at the June 28 meeting. The donated items are shown in parentheses.

Ghann's Cricket Farm (cricket food); Reptile News Press (*Guide to the Reptile Body*, *Complete Guide to Reptile Nutrition*, *Complete Guide to Keeping Monitors*, tarantula mug, monitor mug); Tetra Terrafauna (ReptoVit, Reptisol); ZooMed (terrarium moss, Repti-Heat cave, tortoise food, aquatic turtle food, Avian Plus vitamins); Rep-Cal (Rep-Cal); Fancy Publications (subscription to *Reptiles*); Brian Jones (terrarium backdrops, water bowl and cave); Marcia Rybak (frog earrings, snake magnet, hot rock); Mardel Labs (ProMolt); Karen Furnweger (*Aquaticus Magazine*); Ilene Sievert (live plants); Rolf Hagen Corp. (aquarium heater); Grubco (gift certificate); Marlene Golin (water dish); Kraig Adler–SSAR (color plates); Tony Rattin (T-shirt); Suttan Studios (portrait sitting).

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